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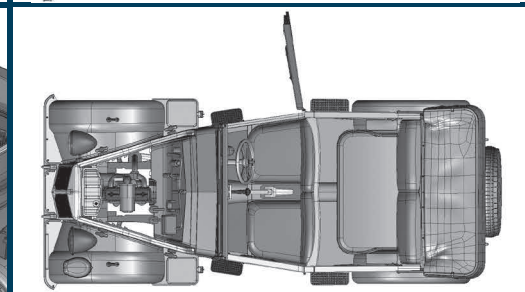
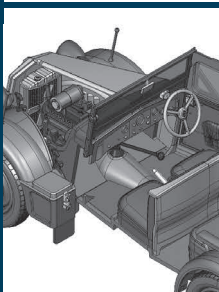
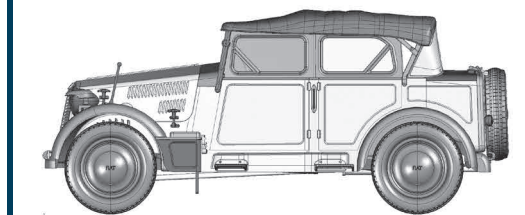
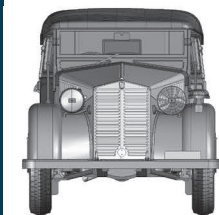
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1:32 SCALE HEINKEL HE 219 COMING FROM REVELL

The Heinkel He 219 was one of the Luftwaffe's most effective combat aircraft. It was used specifically for night fighting and was the first aircraft ever to be fitted with ejection seats as standard. The Heinkel 219's suitability to its role was proven on the night of 11/12 June 1943 over Venlo in the Netherlands when Major Streib of NJG.1 was able to shoot down five enemy bombers during THIS single mission.

The He 219 achieved remarkable successes in the fight against Allied bombers due to the installation of new weapons such as the "Schräge Music", a name given to the upward firing MK 108 cannons in the rear fuselage.

The A-7 version received the most extensive modifications and was still in use at the end of the Second World War II.

Following their spectacular large-scale releases of recent years, Revell now adds to its Junkers Ju 88, Arado Ar 196 and Heinkel He 111 with a 1:32 scale Heinkel He 219 A-7.

The model is due for release in the last quarter of 2012.

Revell's 1:32 scale Heinkel He 219 will be made up from 360 plastic parts and will feature a high level of detail. It will be a big model too, with the wing spanning 578 mm.



Diedrich Wiegmann has built the first test shot of this kit and we have some of the results of his efforts here.

We will have more news about this exciting release in the next Aircraft Edition of Military Illustrated Modeller.

Revell model kits are available from all good toy and model retailers. For further information visit www.revell.eu



JUBILEE AIRSHOW A ROARING SUCCESS

Over 17,000 people attended The Jubilee Air Show at IWM Duxford on Sunday 27 May.

On a gloriously hot and sunny Sunday, visitors enjoyed exploring the museum, making Airfix models with the Airfix Make and Paint Zone, handling historical objects, enjoying fun children's rides, tank riding and much more across the museum.

The flying display commenced at 2pm in grand style with the powerful Eurofighter Typhoon from 6 Squadron, RAF Leuchars. This was followed by the iconic B-17 Flying Fortress Sally B and two North American Harvards (the type of aircraft that Prince Philip flew).

The Westland Lynx from 815 Naval Air Squadron, RNAS Yeovilton, was next to display. The Lynx helicopter was the type flown by Prince Andrew. The was followed by the legendary Battle of Britain Memorial Flight Supermarine Spitfire, Hawker Hurricane and Avro Lancaster.

The Grob Tutor is the type of aircraft that Prince William learnt to fly on. The Grob Tutor displaying at the Jubilee Air Show was from 16 (R) Squadron, RAF Cranwell, where Prince William learnt to fly.

This was followed by two glorious Hawker Nimrod bi-planes, from Historic Aircraft Collection and The Fighter Collection, flying with a Hawker Hurricane.

Following that was a Beechcraft King Air B200



from 45 (R) Squadron, RAF Cranwell.

The Shorts Tucano from CFS Flight, RAF Linton-on-Ouse, performed a stunning display in its new 2012 Diamond Jubilee red, white and blue colour scheme, which looked glorious against the pure blue skies over IWM Duxford. The Shorts Tucano is another aircraft type that has been flown by Prince William.

The Lockheed F-16 Fighting Falcon from 360 Squadron Florennes, Belgian Air Force, performed a rip-roaring display that wowed the crowds.

Prince Edward VIII owned a de Havilland Rapide, which he flew to and from RAF Duxford to see the spectacular sight of the Royal Review

on 6 July 1935, which celebrated the jubilee of his father, King George V. On his accession to the throne, a year later, as King Edward VIII, his Dragon Rapide became the founding aircraft of the King's Flight.

DCG-1 Chipmunk WP903 was built in 1952 and served with the Queen's Flight. It was the actual aircraft on which Prince Charles learnt to fly. In addition to Prince Charles, several other members of the Royal Family learnt to fly on this aircraft type, including Prince Philip and Prince Andrew.

The Bucker Jungmeister provided a celebratory nod to this year's Olympics, as the aircraft that swept the boards in the aerobatic competition at the Berlin Olympics in 1936.

The Patrouille Cartouche Dore, French Air Force, performed its first aerial display at IWM Duxford and in mainland UK. It was followed by the BAe Hawk from 208 (R) Squadron, RAF Valley. No air show at IWM Duxford would be complete without the historic Spitfires so synonymous with Duxford's history. Supermarine Spitfire MkV, Mk IX and Mk IXT next flew over IWM Duxford's historic airfield.

A final surprise item in the flying schedule was a banner tow celebrating the Queen's Diamond Jubilee.

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Crusader at Sea



Mick Evans builds Trumpeter's large and impressive 1:32 scale Vought F-8E Crusader.

Trumpeter's 1:32 Vought F-8E Crusader is a delight to build due to its excellent engineering and the fit of the parts. This kit has a very complex engine fit including a complete series of etched metal compressor and turbine blade. This is totally unnecessary as the kit provides the intake trunk that ends in a solid wall way past the visible area which, from my walk around series, is fairly correct. You would actually need to stick your head in the intake to see the engine compressor face. I built the engine completely per the instructions and was amazed when a solid rendition of the turbine and afterburner ring was fitted behind the etched turbine wheel. Also, there is no provision to break the fuselage and display the engine. So

for what purpose are we provided with all of this detail and construction work? When I build my F-100 Super Sabre I will not be adding all of the engine construction work - only the bare minimum required for display.

The cockpit has adequate detail for display and the ejection seat was okay but the seat pan cushion and life dingy pack are represented by a dead flat plastic plank with no features whatsoever. The real item has a shaped dingy pack with a slim seat cushion that provides the pilot with some backside comfort. The parachute pack and lumbar support are similar, being represented once again by featureless flat plastic similar to the Lightning F.1/3 kit that I built early in 2011. Fortunately I had some now out of

production Tac Scale Dynamics Martin Baker Mk.7 F-4 Phantom ejection seats. While these seats are not perfectly accurate for the Crusader they are very close and a much better rendition than the kit supplied seats. The instrument panel looks very good when painted and just needed some instrument decals to be supplied. I had some Reheat modern instrument decals in my stash and these fitted nicely to liven the panel up, once again referring back to the walk around book for actual instrument locations. I have seen the very nice Aires cockpit designed for the Trumpeter Crusader. This appears to be a simple drop in process and is a vast improvement over the kit cockpit and ejection seat but is very expensive. I was happy with the kit-supplied detail and I



The yellow and black markings were painted as the decal fun stripe was way too wide.

Mick's Crusader was built with the slats dropped, the wings folded and the canopy up.



Cockpit detail is okay, but could be enhanced to good effect in a kit of this size.

could not justify the cost of over US\$50 for a replacement cockpit.

The fit of the fuselage components was very good requiring just a small amount of filler along some of the fuselage seams. The kit comes with detailed gun bays and large panels that may be displayed in the open position, but I chose to glue mine shut prior to fuselage assembly. I would recommend strengthening these joins with small plastic strips as they are mostly a butt join. I also did the same for the Ram Air Turbine (RAT) door. I do not know why kit manufacturers provide the RAT to be displayed as this is an automatic feature that extends when the hydraulic system has failed and is rarely open on the ground unless there is major maintenance occurring.

The undercarriage bays and legs are nicely detailed and look good when complete and highlighted with a dark wash. Of course, Aires offer a very nice resin wheel well set (which once again is very expensive) and Scale Aircraft Conversions does a white metal undercarriage leg replacement set. I looked at the SAC undercarriage legs. While they are metal, the level of detail was not sufficiently better to prompt me to purchase a set.

The kit also allows the modeller to display the in-flight refueling probe in the extended position. While this can be often extended on the ground I chose to close the panel to keep the aircraft looking fairly clean.

The final decision facing the model builder is whether to display the wing in the raised position for take-off and landing or the lowered in flight position. I chose the raised position as this is a feature unique to the Crusader.

The fuselage area underneath the wing is fairly well detailed by Trumpeter but I was concerned as to whether to enhance the detail. A quick



Trumpeter provides some detail under the raised wing.

did not want to fit Zuni rocket pods to my kit and would have liked to have fitted four Sidewinders but with Trumpeter only supplying two Sidewinders I was presented with a minor dilemma. I thought that the model would look a bit strange with only two missiles fitted on four rails. After a bit of research I opted to fit the earlier single fuselage pylons with only one launch rail and missile. Trumpeter does not supply the single pylon in the kit but these were easily scratch built from my spares box.

The speed brake can be positioned open or



Wing fold detail is nicely done.



The fit of the kit is excellent except for the inner leading edge.

"Trumpeter's 1:32 Vought F-8E Crusader certainly looks impressive when it is complete, particularly due its large size and the raised wing."

trial fit showed that the level of detail visible was sufficient, so the area was painted and a quick highlighting dark wash was applied. I was also concerned around the strength of the wing to fuselage attachment, but once installed this proved to be extremely strong. As I did not want to fit the wing pylons, I filled the locating holes in the lower part of the wing with styrene rod and a small amount of filler.

PAINTING AND MARKINGS

The kit was painted in the FS 16440 Light Gull Grey and FS FS17875 Insignia White.

My next issue became the decals for VF-162. The fin stripe appeared way too wide so I masked this up and painted the yellow strip first and then the black pinstripe. Trumpeter also did not supply all of the data decals around the cockpit, in particular the ejection seat warning triangles and rescue signs. Unfortunately I did not have any in my spares box so these will have to be added at a later date.

The decals went on well and snuggled down into the detail well with a small amount of decal set.

FINISHING TOUCHES

Trumpeter does supply the "Y" missile adapter pylon for the fuselage sides and supply four Zuni rocket pods and two AIM-9 Sidewinder missiles. I

closed and in this case I opted for the open position.

My only major issue with the build came when fitting the leading edge flaps. In this case, the leading and trailing edge flaps may be position either streamlined or lowered for take-off and landing. Trumpeter has moulded the leading edge flaps so that they insert into the wing perfectly for the streamlined position which means that when they are fitted in the lowered position they will sit high above the leading edge of the main wing. I reduced the rear of the leading edge flap by about 0.5mm to allow the leading edge flap to sit flush with the wing upper surface. The modification is not visible when the flaps are installed.

A major bonus is that the windscreen and canopy are very thin and they are crystal clear. I masked the two parts and first painted the solid areas matt black before painting the canopy in FS 16440 Light Gull Grey. The canopies were then masked further and a thin yellow line was airbrushed to represent the sealant that seals the canopy for pressurisation, this is particularly evident on most Crusaders.

One trap is that you need to check your references as the painting instructions do not detail all the required painting. For example, the bare metal leading edges for the wing are not detailed.

Trumpeter's 1:32 Vought F-8E Crusader certainly looks impressive when it is complete, particularly due its large size and the raised wing. The fit is excellent except for the inner leading edge flaps and detail is reasonable.

CONCLUSION

For a more detailed kit, there are some options about in the aftermarket world that can add superb detail but be ready to open the wallet as they are not cheap. •

MODELSPEC

Trumpeter 1:32 Vought F-8E Crusader. Kit No. 2272

References:

Hitchcock, T.H. 2010. The Focke-Wulf Ta 152. Eagle Editions Ltd.

+ Good decals; Clear and thin transparencies; Crisp surface detail; Excellent instruction sheet

- Average detail on the ejection seat; Inaccurate paint scheme details

Rating: 8 out of 10

Trumpeter kits are distributed in the UK by Pocketbond



TOTALLY TUPOLEV

We have been waiting a long time for a mainstream, injection moulded Tupolev Tu-2 in 1:48 scale. Xuntong Model has now filled this important gap with their debut offering. The Editor checks it out.

Everyone can name a few British or American or German bombers. However, such is the veil of mystery in the west over the Great Patriotic War that most people would be hard pressed to name a single Soviet WWII bomber.

The most numerous Soviet bomber of the Second World War was the Petlyakov Pe-2 dive bomber. Similar to the Junkers Ju 88 in its intended role and eventual flexible service, the Pe-2 also served as a heavy fighter, reconnaissance aircraft and night fighter. More than 11,000 Pe-2s were built.

Designed in response to a Soviet requirement for a high-speed daylight bomber, the Tupolev Tu-2 was the second most important two engine Soviet bomber. It was produced in relatively small numbers – 2,257 being built between 1942 and 1948 – but it was nevertheless an outstanding aircraft. The Tu-2 entered service in 1942, and performed the roles of conventional bomber, dive-bomber and torpedo bomber. It was also built in interceptor and reconnaissance versions.

With a crew of three and an impressive bomb load of 3,770 kg (internal and external), the Tu-2 boasted a top speed of more than 500 km/h.

In addition to Soviet service, the Tu-2 saw widespread post-war service with other Communist nations and Warsaw Pact partners including China, North Korea, Poland, Hungary, Romania and Bulgaria. The Indonesian Air Force also operated the Tu-2.

The torpedo bomber variant was the Tu-2T. This carried one or two 500 kg or 1,000 kg torpedoes, and was produced from February 1945 until 1947.

Xuntong Model is a new company out of China. Their first offering is a 1:48 scale Tupolev Tu-2T Torpedo Bomber. In fact, this is the first ever mainstream injection moulded 1:48 scale Tu-2 kit.

Xuntong's 1:48 scale Tu-2T comprises 260 parts in grey and 18 parts in clear. Moulding quality is very high. Panel lines are recessed and reasonably restrained – I'd say medium sized in the current field of model companies. The surface of the main plastic parts has a very slight orange peel effect. Light sanding will smooth this down, but take care not to eliminate the nice non-slip texture at the wing roots. The only surface features that I do not like are the heavily sagged fabric control surfaces – deep recessed ovals moulded into the plastic parts. In my

opinion these are not only over scale but they do not really represent any fabric effect that I have ever seen. I plan to spend a little time filling and sanding these capsules.

The cockpit and interior are well equipped with all-plastic parts. Harness straps are not included but the rest of the interior should look great with nothing more than a careful paint job.

The engines are also very well detailed, each being made up from more than 20 parts.

Controls surfaces are moulded separately expect for the rudders and inboard flaps.

The clear parts look great – thin and sparkling clear.

On HyperScale's "Plane Talking" Forum, Sergey Kosachev has pointed out that the top profile of the nose is too curved. It should be almost a straight line from the front of the windscreen to the front of the fuselage. Correcting this should be a relatively simple matter of backfilling the nose and sanding the top to a flatter profile.

If you want to build a WWII conventional bomber version, you are (mostly) in luck. Xuntong supplies an alternative canopy, Part E13, that features the wartime German-style machine gun position. Also, wartime aircraft were not fitted with filters on the intakes (Parts D41). You'll need to fill the recessed filters in the sides of the intakes. With this work done, just omit the torpedoes and you will have yourself a WWII bomber. Thanks to Sergey Kosachev for this information too.

Markings are provided for six varied schemes from the Soviet Union, China, Poland, North Korea and Bulgaria. The decals seem to be nicely printed but, being a new company, I'll be testing an unwanted option on some painted scrap plastic before committing the decals to the finished kit.

Xuntong has delivered a very nicely detailed 1:48 scale Tupolev Tu-2 as its debut offering. A modeller with moderate experience will be capable of tackling the kit's couple of shortcomings – the overdone fabric surfaces and the curved upper nose – and of backdating the torpedo bomber to a wartime day bomber.

I'll look forward to seeing what Xuntong has in store for us next.

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Moulding quality is high.



Surface detail is generally restrained.



Alternative pilot's and gunner's canopies are included.



The engines are made up from more than 20 parts each.



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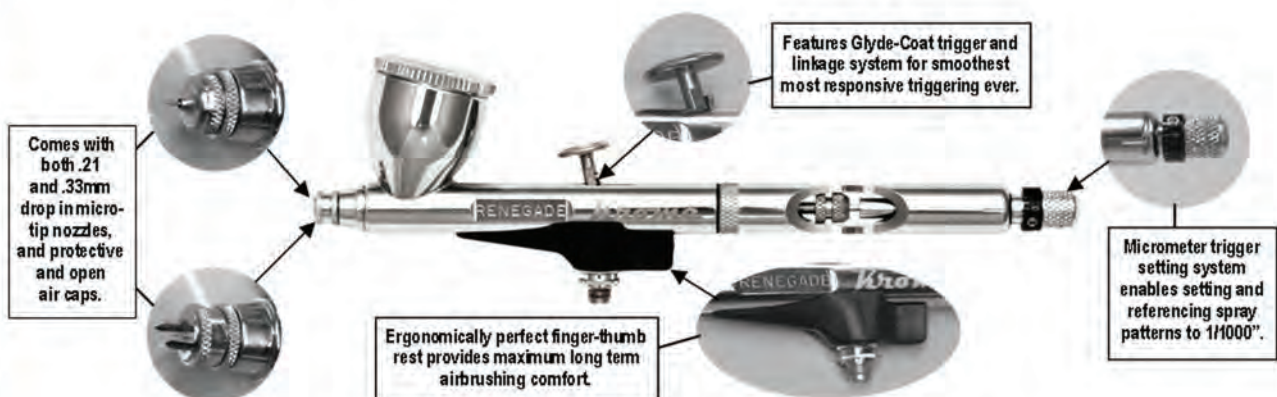
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GOLDBLOCKS' CHOICE

Part One - Construction



The Editor decides that 1:48 scale is just right for a Heinkel He 111. In Part One, he details the 1994 Monogram kit with a True Details cockpit and completes basic construction.



I have tackled many Spitfires and Messerschmitt Bf 109s in my 40-odd years of modelling, but bombers are built less often. This is partly because of personal preference, but also because a single-engine subject offers something close to instant gratification due to the relative speed and simplicity of the build.

When a larger subject does cross my workbench, however, the results can be very satisfying. The last bomber that I built was Revell's magnificent 1:32 scale Junkers Ju 88. I was very impressed with the accuracy, detail and fit of that model.

GOLDILOCKS AND THE THREE HEINKELS

When Revell released their 1:32 scale Heinkel He 111 in 2011, I thought that I had found a stablemate for my big Junkers Ju 88.

However, Revell's initial He 111 release was the P-1 variant, and I could not find a set of markings that I particularly liked. What I really wanted was an aircraft that carried the white or pale pink Battle of Britain theatre markings – three bars on the starboard wing and fin. Xtradecal offered such a scheme on their 1:32 scale sheet no. X32044, but the subject aircraft was actually an H-2. In fact, despite scouring the Internet and photos in my own library, I could not find a single He 111 P that carried these prominent theatre markings. I investigated the possibility of converting the P-1 to an H-2, but this was eventually relegated to the too hard basket.

I also own Hasegawa's 1:72 scale Heinkel He 111 H. This is a nicely detailed model, but in my opinion the recessed panel lines are too deep and wide. If I were to build this kit, I would want to fill and sand most of the panel lines. The very prospect of this extra work meant that Hasegawa's kit joined Revell's He 111 in the too hard basket, at least for the time being.

This left one possibility. Monogram released a 1:48 scale Heinkel He 111 H-4/H-5 in 1994. This model is a good size – big enough to display plenty of detail but not taking up as much bench space as the Revell 1:32 scale kit – and features crisp, fine recessed panel lines. Just as importantly, converting this kit back to a Battle of Britain He 111 H-2 or H-3 would be no more complicated than replacing the exhausts.

Like Goldilocks before me, I found that this middle option was "just right"!

MONOGRAM'S 1:48 HEINKEL HE 111 H-4/5

Monogram's 1:48 scale Heinkel He 111 H-4/H-5 kit comprises 106 parts in grey plastic and 17 in clear.

Surface detail is excellent. The panel lines are fine and crisply recessed.

Overall kit detail is very good too. The cockpit and fuselage interior are typical of other Monogram bombers – more than adequate detail achieved with a minimum number of parts. Although the bomb bay itself is completely devoid of detail, the rear cabin features deep sidewall mouldings that may be glimpsed through the small windows and the larger top machine gun position. The wheel wells are good too. I like the engineering of the main undercarriage bay doors. Each door is moulded to a sidewall in the undercarriage bay, ensuring perfect alignment and a robust fit. ➔



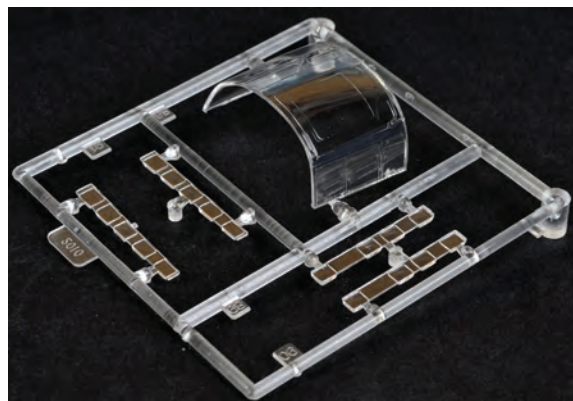
The kit is moulded to a very high quality with crisp and finely recessed panel lines.



This is the Monogram 1:48 scale boxing of the Heinkel He 111 H-4/H-5.



The distinctive nose is an impressive one-piece clear part.



The arch-shaped clear part over the pilot has the top hatch moulded in the closed position.



It's aftermarket city and I am the mayor! Accessories, decals and masks are assembled before construction gets underway. Not all of these were used for this project.

◀ The plastic itself is shiny, somewhat brittle and unforgiving. The hard surface makes it easy to gouge out chunks of plastic, and the wide sprue attachment tabs on the fuselage and the wings further increase the risk.

There was some heavy flash on my model, but only in a relatively small number of locations. The most significant of these were blocking the slots in the fuselage sides for the wing spars. These slots need to be thoroughly cleaned out with a sharp hobby knife so that the wing spars can slide through.

There are also some well-documented moulding flaws on the top surface of the wings. In my opinion they are barely noticeable, so I did not bother to address them.

The propellers are the early narrow-bladed style, with the slimmer spinners to match. Six-stack exhausts are provided, which were typical of day bombers from the H-4 onward.

The kit supplies three machine guns – one for the nose, one in the ventral gondola and one in the dorsal position. Based on hard lessons learnt during the early campaigns in Poland and over the Continent, the Heinkel He 111 H-4 featured increased defensive armament. A machine gun was fitted to each side of the rear cabin, firing through a hole in the side windows. In fact, many surviving H-2s were retrofitted with these waist guns too. Monogram, however, only provides solid windows for the fuselage side. Check your references carefully. If your subject featured the waist guns, it

will be a simple matter to drill out each side rear window and source a couple of extra MG 17 machine guns.

The kit provides the external rack for two 1,000 kg bombs or two torpedoes, along with the bombs and torpedoes themselves.

Markings are supplied for two aircraft:

- He 111 H-4 of 8./KG 55 on Night Intruder operations from Deux France in 1941.
- He 111 H-5 of II/KG 26 equipped with two torpedoes, based at Grosseto Italy during 1941.

BACKDATING TO A BATTLE OF BRITAIN H-1, H-2 OR H-3

The kit's combination of propellers, exhausts and armament means that you can only build an He 111 H-4, H-5 or an early H-6 straight from the box. Production of the He 111 H-4 commenced after the Battle of Britain, although a number did participate from early 1941 in night intruder operations during the later Blitz.

However, backdating the model to an H-1, H-2 or an H-3, as used in the Battle of Britain, is not difficult at all.

Although the instructions do not mention it, a panel containing the standard bomb bay doors is also included on the sprues. This will be the first ingredient in our H-1 / H-2 / H-3 recipe.

EXHAUSTED

The He 111 H-4/H-5 kit only includes the standard

six-stub exhausts. However, Monogram also released the final Heinkel He 111 variant, the H-22. The He 111 H-22 kit supplies shrouded exhausts. By a stroke of good fortune, these exhausts are the style used on Battle of Britain-era variants – closed and skinny at the front, flaring out at the downturned ends. The style actually used on the H-20 to H-22 variants was a wider tubular exhaust, similar to the flame dampers seen on Junkers Ju 87 D and G Stukas.

I therefore had no qualms about taking the shrouded exhausts from the He 111 H-22 kit. When the time comes to build the later Heinkel, I will either use two sets of Stuka exhausts or build a set from scratch. Given the simple shape, it should not be that challenging.

If you do not want to buy an entire kit to raid for the exhausts, there is an alternative. Koster Aero Enterprises released a Heinkel He 111 detail and conversion set comprising vacform and white metal parts. One of the conversion items is a set of H-3/H-3 exhausts.

With the standard bomb bay doors and the appropriate exhausts, we now have all the parts we need to build a Battle of Britain Heinkel He 111 H-1.

So let's get started!

THE FRONT OFFICE

Monogram's cockpit is quite nicely detailed straight from the box. The pilot's seat even has harness straps moulded in place, albeit faintly. However, this seemed to be a good chance to use the True ➤



True Details' 1:48 scale Heinkel He 111 cockpit detail set comprises nine pieces in cream-coloured resin. Note the location of the casting block between the legs of the pilot's seat.



I accidentally broke one leg and the armrest off while wrestling with the casting block. These were later reattached with super glue.



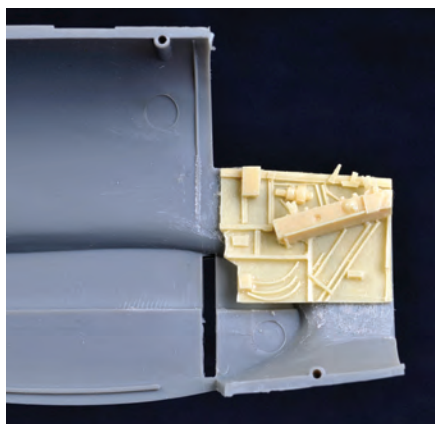
The remaining resin pieces with the casting strips and blocks removed.



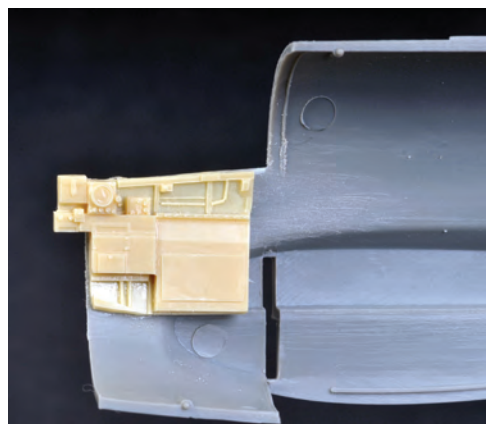
Monogram's fuselage has raised detail moulded to the cockpit sidewalls.



Kit detail parts are added to the resin cockpit floor. One of the rudder pedal footrests was broken off, so it was replaced with a piece of scrap plastic.



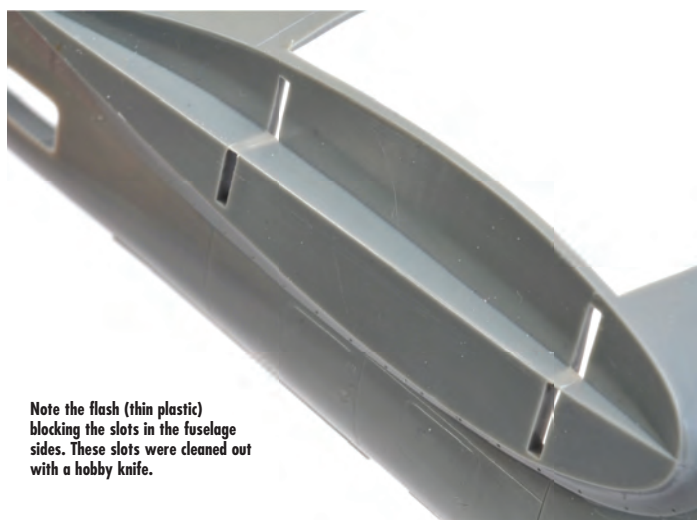
Far Left: The resin sidewalls were glued direct to the interior of the kit's fuselage.



Left: True Details' resin sidewalls are an improvement over the kit parts.



The raised detail was eliminated with a sharp hobby knife and a grinding attachment on my Dremel motor tool.



Note the flash (thin plastic) blocking the slots in the fuselage sides. These slots were cleaned out with a hobby knife.



Here, the floor and bulkheads are test-fitted in the fuselage.

The rear cabin forward bulkhead. After receiving a coat of the base colour – in this case Gunze H70 RLM 02 – the part was sprayed with lines of thinned Tamiya XF-1 Flat Black and XF-64 Red Brown



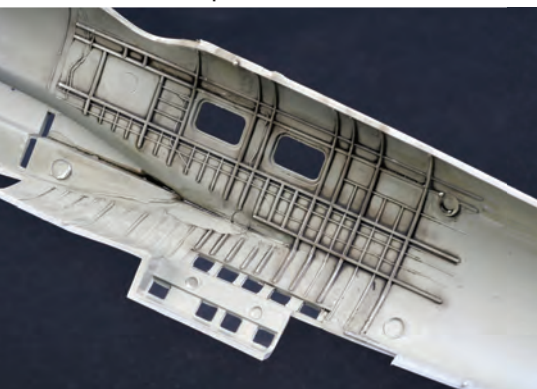
The rear cabin forward bulkhead. After receiving a coat of the base colour – in this case Gunze H70 RLM 02 – the part was sprayed with lines of thinned Tamiya XF-1 Flat Black and XF-64 Red Brown



Lap belts for the navigator's jump seat were cut from lead foil. Buckles from an Eduard photo-etched set were glued to the end of the straps.



Detail parts were attached to a small box using blobs of Blu-Tack to make handling easier while painting.



The next step of weathering was a wash of thinned oil paint. A heavy wash was applied in the rear cabin to compensate for the low visibility through the small windows.



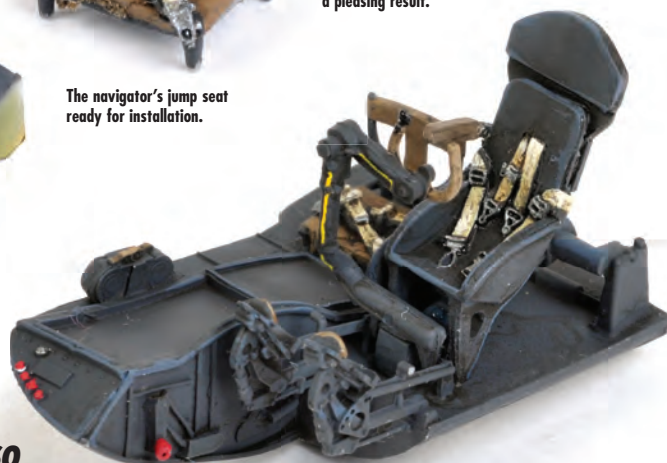
Weathering was applied more subtly in the dark grey cockpit, but the same basic techniques were used.



The navigator's jump seat ready for installation.



Careful painting of cast-on harness straps can deliver a pleasing result.



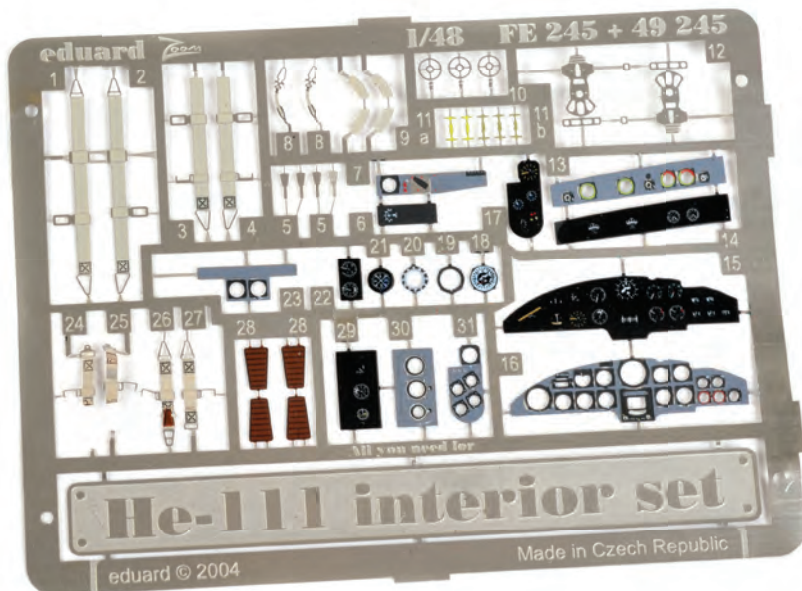
The cockpit floor, weathered and with the seats fitted.

"The most prominent and distinctive feature of the Heinkel He 111 is the clear glasshouse canopy. It is also the most likely location for a modelling disaster."



Instrument dials and placards were added courtesy of Airscale and Reheat decals.

The main instrument panel was sourced from Eduard's colour photo-etch fret, Item No. FE 245.





The combination of the printed instruments with the colour front panel is very realistic.

Dials for the supplementary panels were sourced from Aircscale decals, with a spot of Future floor polish over the top to represent lenses.



The cockpit floor has been glued to the bulkhead and test fitted against one of the fuselage halves...



The pilot's rear bulkhead, painted and weathered. The bright blue highlight does not look anywhere near this stark under regular lighting!



Detail parts were picked out with Vallejo acrylic paints. The smallest parts were coated with the tip of a toothpick.

The Reheat placard decals add more interest to the prominent cockpit.



...and then test fitted against the other.

◀ Details He 111 cockpit detail set that I bought many years ago.

I have always liked True Details updates. They are generally well detailed, have nice harness straps cast to the seats, use a minimum number of parts and are economically priced.

In the case of this He 111 update, the pilot's seat and the sidewalls are significant improvements over the kit parts. I particularly liked the armour plating behind the pilot's head, which is not included on the kit seat. The resin seat was cast onto a tricky block between the delicate inverse-triangular legs. I broke one of the legs off while trying to access the chunky block, but it was a simple matter to glue it back on when clean-up was complete. The other parts were more accessible and ready for installation in short order.

The kit's moulded-on sidewall detail was removed with a grinding attachment on my Dremel motor tool. The resin sidewalls were then super-glued straight onto the kit's interior, but only after test-fitting to make sure that the resin parts did not interfere with either the rear bulkhead or the clear canopy parts.

Next, the kit's rudder pedal mounts, control column and actuators were glued to the resin cockpit floor. I had managed to break off one of the rudder pedal footrests, so this was replaced with a piece of scrap plastic strip.

Neither Monogram nor True Details offer harness straps for the navigator's jump seat, so I improvised a pair of lap belts from layers of lead foil and buckles from an Eduard photo-etched set.

The flashed-over areas of the slots in the fuselage

sides were cleaned up before painting commenced.

All the cockpit components were sprayed with Tamiya XF-63 German Grey. This works well as a base colour for 1:48 scale RLM 66 Black Grey interiors.

Tamiya XF-24 Dark Grey was then applied in small random mottles and narrow streaks for a little variety.

With the base colour in place, a thinned mix of Tamiya XF-64 Red Brown and XF-1 Flat Black was sprayed into natural shadow areas and in tiny streaks and spots to represent wear and tear.

All the cockpit components received a selective wash of thinned oil paint along structural features and edges. A 50/50 blend of Winsor and Newton Lamp Black and Raw Umber was mixed to a watery consistency with odourless thinners for this task.

I like to paint any details that will later be red or yellow with a base coat of Vallejo acrylic white. This ensures a more vivid result when these sometimes temperamental colours are applied at the final stage of painting.

Finally, small details such as handles, quadrants and buckles were painted using Vallejo acrylics applied with a fine brush.

The rear cabin was sprayed RLM 02 using Gunze acrylics, and weathered using the same techniques as the cockpit.

PUTTING A SMILE ON YOUR DIAL

The Heinkel He 111's instruments are strewn across various locations in the cockpit, including a curved panel above and in front, and several clusters

on the ceiling and side consoles. I used the main instrument panel from Eduard's 1:48 scale colour photo-etched interior set. This provides precisely painted red and yellow bezels over a dark grey panel, with the rear layer comprising crisp white instruments printed on a black background. The black and white dial layer was brush painted with two coats of Future floor polish. This glossy coat was intended to convey the impression of glass lenses for the dials. The front panel was given a flat coat before the two halves were joined.

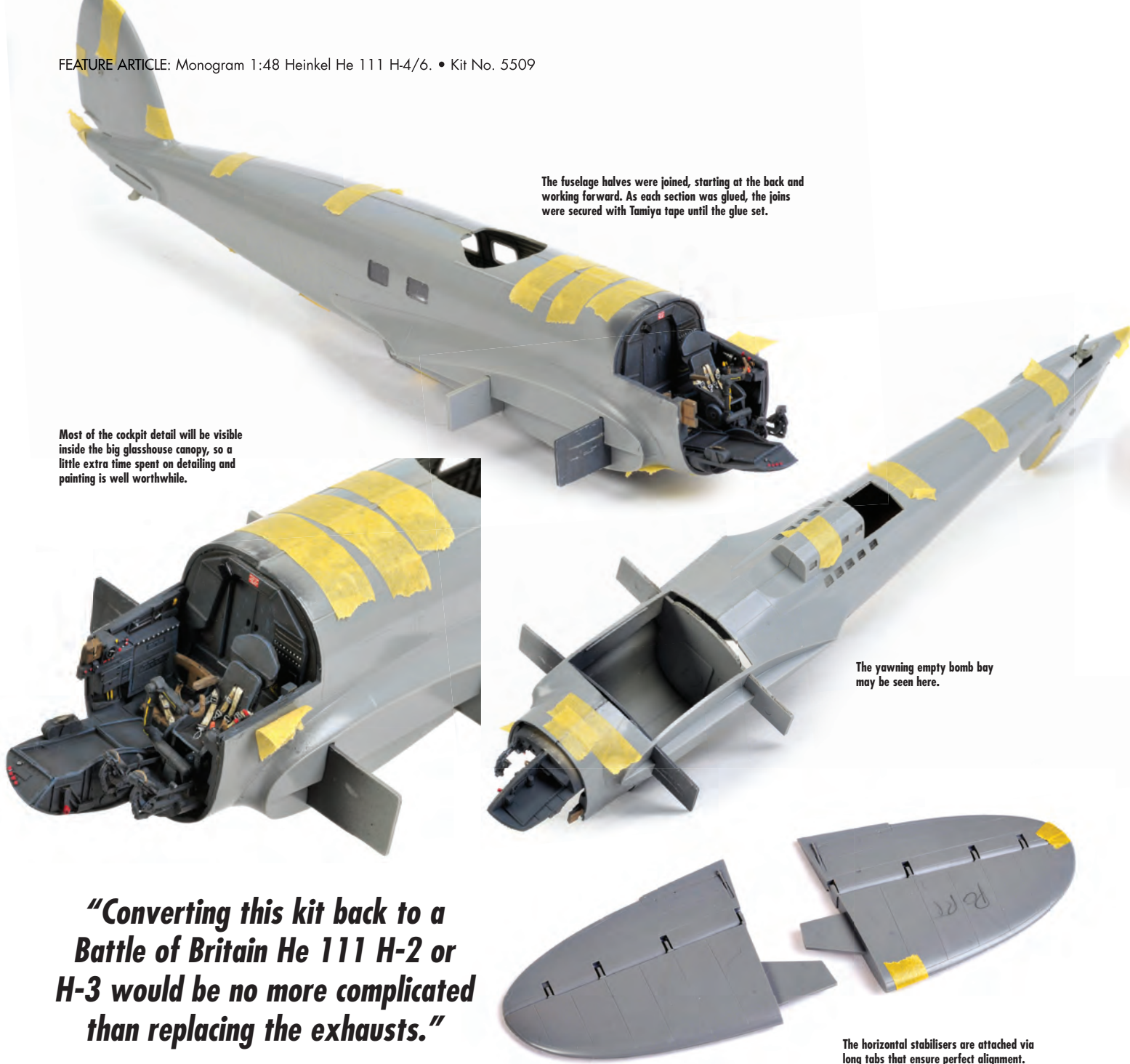
The dials on the other instrument clusters were sourced from Aircscale's Generic WW2 Luftwaffe Instrument Dial Decals, set no. AS48 LUFT. The resin and plastic parts were coated with Future floor polish to ensure the best possible adhesion before the decals were applied. Some Reheat cockpit placard decals were also added to the cockpit interior before an overall flat coat.

MAIN CONSTRUCTION

Before construction continued, I dipped all the clear parts in a bath of Future floor polish. This has two benefits. It improves the shine of the clear plastic, but it also allows the parts to be attached using super glue without fogging.

The Future-coated parts were left to dry overnight, then the small side windows were glued in place. Small spots of super glue were applied with the tip of a toothpick, then the clear parts were carefully pressed into their recessed locating positions on the inside of the fuselage.

The fuselage halves were now joined. The two bulkheads with their integral wing spars were fed ➤



The fuselage halves were joined, starting at the back and working forward. As each section was glued, the joins were secured with Tamiya tape until the glue set.

Most of the cockpit detail will be visible inside the big glasshouse canopy, so a little extra time spent on detailing and painting is well worthwhile.

The yawning empty bomb bay may be seen here.

The horizontal stabilisers are attached via long tabs that ensure perfect alignment.

“Converting this kit back to a Battle of Britain He 111 H-2 or H-3 would be no more complicated than replacing the exhausts.”

through the sides of the fuselage, and the cockpit floor was super-glued in place. The fuselage halves were then secured with lines of Tamiya Extra Thin Liquid Cement and taped with Tamiya tape as they dried.

I kicked myself (but only metaphorically) when I realised that I had neglected to install the tail wheel assembly. I quickly cut the parts from the sprues, glued them together with super glue and managed to manipulate the four locating pins into their holes in the tail wheel bay. Although it is possible to install the tail gear with the fuselage halves joined, I recommend that you pay attention to the instructions and fit them beforehand!

SELF-INFLICTED WOUNDS

Monogram's sprue attachments are particularly wide on the leading edges of the Heinkel's wings. The attachments look like a sprue turned sideways and attached direct to the wing. This makes it difficult to remove the parts cleanly from the sprues without damaging the wing leading edge. I tried to get in close with a set of sprue cutters and

managed to completely butcher the cuts. The result was not much better when I tried using a new knife blade. I wound up with long deep scars – almost holes in some places – where the parts had been cut from the sprues.

In future, I will use a JLC photo-etched razor saw to minimise the damage.

For now, though, I decided to continue with assembly and to repair the scarring once basic construction was complete.

The engine and wing sub-assemblies went together quickly and without trouble. In fact, the fit to this point was almost perfect.

The instructions would have you install the main undercarriage bay doors and interior sidewalls even before the wings are attached to the fuselage, but I recommend that you delay this until after the model is assembled and painted.

Every account of building this kit that I have seen mentions that there is a noticeable gap at the lower wing joins. I can confirm that this is the case. I started with the port wing, sliding it over the short plastic wing spars and running Tamiya Extra Thin

Liquid Glue along the top wing root join. The result was a perfectly aligned, gap-free join between the top of the wing and the fuselage wing root. Below was a different story though. The legendary gap was indeed present.

Ignoring the gap, I moved on to the starboard wing, which was attached using the same technique. Once again perfect fit on top of the wing, with a 1 - 2 mm wide gap running the length of the join below.

Now it was time for the horizontal tail planes. These are each provided as a top half and a bottom half with the elevators moulded in the neutral position. The tail planes were glued to the fuselage with no gaps or steps.

LOP-SIDED

However, there was trouble on the horizon. I checked the dihedral of the wings against the flat horizontal stabilisers. The starboard wing was way too high. Sometimes, I can adjust dihedral by flexing the wing, but the error was too large on this occasion.



The engine assemblies went together quickly and without fuss.



Here are some of the big sprue attachments on the leading edge of the wing...



...and this is the result of their removal! Next time, I will use a razor saw to get between the sprue attachment and the surface of the wing leading edge.



The mating edge of the wing includes slots for the short spars that extend from the fuselage.



Right: The fit of the wing on the top port side is perfect.



The fit on the starboard side was excellent too, but the join had to be broken as the dihedral was uneven. Pieces of scrap plastic are being used as spacers to push the wing down and therefore reduce the dihedral.



The excess from the plastic spacers has been cut off and the gaps in between filled with Milliput.

◀ I had to break the fresh join at the top of the starboard wing and pack out the gap with pieces of scrap plastic until the dihedral matched that of the port side wing. The spacer plastic pieces were then glued in place. Once thoroughly dry, the excess plastic was cut off and the gaps in between were filled with White Milliput two-part epoxy putty. The putty was smoothed with a damp fingertip while it was still workable, reducing the amount of sanding that would be required after it was set.

While I had the Milliput out, I also filled the scars in the leading edges of the wings. Similar damage to the wing tips was also repaired at this stage.

With the dihedral issue addressed, I moved on to the unresolved gaps at the bottom of the wing root. For these, I used super glue. The glue was simply run along the gap and left to dry for around 30 minutes, and sanded flat with a coarse sanding stick before it was completely hard.

The entire model was then sanded and polished, with particular attention paid to the areas that had previously been filled.

CLEAR THINKING

The most prominent and distinctive feature of the Heinkel He 111 is the clear glasshouse canopy. It is also the most likely location for a modelling disaster – misalignment, cracking or glue smearing just to name a few possibilities. I therefore gave this area a lot of thought. Test fitting suggested that there might be a step between the arch-shaped clear piece above the pilot and the nose cone. I decided to glue these pieces together before adding them to the fuselage. My logic was that any step or misalignment would be less obvious between the fuselage and the canopy than between two clear parts. It would also be easier to fill and sand the grey plastic.

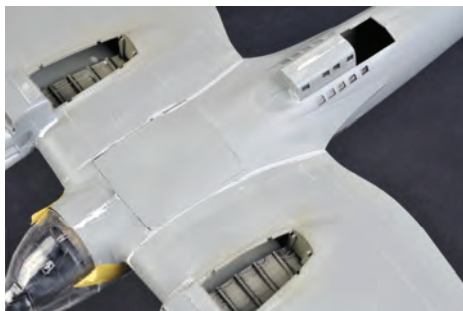
The two clear pieces were secured with small spots of super glue, ensuring there was no step at the join. So far, so good. Super glue was also used to attach the entire nose sub-assembly to the front of the fuselage. Unfortunately, after only minor manhandling, the super-glued join between the two clear parts cracked open. I ran a bead of liquid glue along the seam and this appeared to address the problem.

However, the entire clear nose popped off shortly afterwards as I was testing the strength of the join. I can only assume that the combination of the super glue's low shearing strength and the coat of Future floor polish on both clear surfaces conspired to create this fragile bond.

I scraped the super glue and Future from the



In the meantime, gaps between 1 and 2 mm remained between the bottom of the wings and the fuselage.



These gaps were filled with thick super glue. The grey line is Tamiya Surfacer, applied over the clear super glue after it had set to ensure that no gaps remained.



The fit of the horizontal tail surfaces is impressive. The hinges and actuators of the elevators look great too.



mating surfaces of the clear parts with a knife blade before applying Revell Contacta cement straight from the hypodermic applicator first to the clear parts, and then to the mating surfaces of the nose. Despite taking excruciating care, I still managed to smear a small amount of glue on the inside of one of the clear panes. After a few seconds, the nose and fuselage were brought together. One of the advantages of using plastic cement for these challenging jobs is that you can adjust the alignment before the glue sets. Once I was happy that there were no steps, I taped the clear nose to the main fuselage as the cement dried. •



The two clear canopy sections were joined with super glue before they were attached to the nose.



The gouges from the leading edge were repaired with copious amounts of Milliput.



The model, filled and sanded, and with the clear nose test fitted prior to gluing in place.



MINI MODELSPEC

Monogram (Revell) 1:48 Heinkel He 111 H-4/6. Kit No. 5509

Accessories Used:

True Details Item No. 48458 — He 111 Cockpit Detail Set
Verlinden Productions Item No. 1109 — Heinkel 111 Update
Eduard Item No. FE 245 — He 111 Interior Set
Airscale Item No. AS48 LUFT - Generic WW2 Luftwaffe Instrument Dial Decals.
Reheat Models Item No. RH131 — Generic Cockpit Placard Decals
Eduard Mask Item No. EX 006 — He 111
Three Guys Replicas Item No. TGR48002 — Heinkel He 111s
FCM Decals Item No. HB4801 — Battle of Britain (reference only)

Tools and Materials Used:

JLC Razor Saw
Tamiya Extra Thin Liquid Cement
Revell Contacta Cement
Milliput White two-part epoxy putty
Tamiya Putty Basic Type
Tamiya Surfacer
MasterCaster's sanding sticks
Tamiya Abrasive Paper
MicroMesh Polishing Cloths
Staple Remover (as putty trowel)
Tamiya Masking Tape (6 mm, 10 mm, 18 mm)
Plastic Clamps (various sizes)
Iwata HP-TR Airbrush
Iwata HP-CH Airbrush

Paints and Finishing Products Used:

Tamiya Acrylic Paints — X-18 Semi Gloss Black; X-28 Part Green; XF-1 Flat Black; XF-2 Flat White; XF-5 Flat Green; X-23 Light Blue; XF-63 German Grey.
Gunze Acrylic Paints — H64 RLM 71 Dark Green; H65 RLM 70 Black Green; H70 RLM 02 Grey.
Tamiya Aerosol Paints (decanted into glass jars) — Fine White Primer; TS-17 Black; TS-49 Bright Red.
Vallejo Acrylic Paints — 847 Dark Sand; 865 Oily Steel; 919 Foundation White; 953 Flat Yellow; 957 Flat Red; 963 Medium Blue; 996 Gold.

+ High level of detail (cockpit, fuselage interior, wheel wells); crisp, fine surface detail; impressive clear parts; generally good fit.

- Some flash; poor fit at lower wing roots.

Rating: 8.5 out of 10

Revell model kits are available from all good toy and model retailers. For further information visit www.revell.eu

Next time, Brett will describe the masking, painting and weathering of Monogram's Heinkel He 111.

OBSOLETE BUT OBSTINATE

Marcus Nicholls goes naval and builds Greatwall Hobby's recently issued 1:48 Douglas TBD-1 Devastator, the United States Navy torpedo bomber of the early Pacific campaign





The Douglas TBD-1 Devastator was ordered in 1934; it first flew in 1935 and entered United States Navy service in 1937, approximately the same timing as the Royal Navy's anachronistic Fairey Swordfish biplane. It was one of the most significant aircraft in the history of US Navy aviation; a revolutionary design when introduced, with a streamlined, all-metal monoplane construction and a 200mph (plus) top speed that stood in stark contrast to contemporaries like the aforementioned Swordfish. The TBD-1 played a key role in the critical early period of the Pacific War at the Battles of the Coral Sea and Midway, most often remembered as the obsolete torpedo bomber whose brave crews were wiped out during Midway in 1942. Of the forty-one TBDs launched from USS Enterprise, Yorktown and Hornet, only four returned, a shocking ninety-percent loss rate. Every one of the fifteen Devastators in Hornet's VT-8 squadron were shot down and not a single torpedo found its mark.

Sadly, no Devastators survive in any collection or museum today, the only semi-intact examples lay in shallow waters off islands in the Pacific.

A NEW KIT ARRIVES

Greatwall Hobby sprang from the Chinese aftermarket producer 'Lion Roar' and can be seen as the company's model kit production arm. Their first 1:48 aircraft model was the Focke-Wulf Fw189, followed by the P-61A Black Widow and both made a considerable impact on the aircraft modelling scene with their detail, complexity and apparent ease of build. The Douglas TBD-1 Devastator followed, and many modellers – me included – immediately wanted to see how they'd executed two crucial features; the ribbed wing panels and the folding outer wings. These elements are key in getting the correct 'look' of the Devastator and if not done right, would spoil the model no matter how good the rest of it was. It was easy to check the wing ribs by just looking up close at the kit

parts, but how the leading edges would line up would only be known once assembly was under way. Likewise the wingfolds; the parts looked straightforward to assemble from a glance at the instructions, but the 'proof of the pudding would be in the eating' to coin a phrase.

The model kicks off with the cockpit, and the three-man 'office' is a impressively detailed with some very small, delicate components coming into play. The multi-deck approach requires parts that fit together very well and here, I'm glad to report, GWH have largely succeeded. Location-points between parts are often tiny though, and you need to take great care in getting their positions correct and also not to flood the area with liquid cement during assembly; tweezers are highly recommended.

The pilot and torpedoman/navigator's seats are supplied with full harness sets in photo-etched brass and the radioman/gunner has the correctly shaped, wide lap-belts, also in PE. The rudder pedals build up from two parts each and ➤

look excellent, the forward bulkhead with pilot's seat attached is very authentic and the gunner's machine-gun ring builds into an extremely well detailed but very delicate sub-assembly.

The pilot's instrument panels are provided with individual decals to represent the dials and they fit reasonably well into their bezels, with decal setting-solution helping settle them fully. What is not so impressive is the way the panels fit into their places within the cockpit; there are no mechanical location points here, you just have to glue the end of each panel to one side of the open fuselage inner surface and hope they line up with the other half as they are closed up, which is quite tricky. If they drop or go out of alignment during the procedure, I can't see an easy way to reposition them. Nice big location pins behind each panel would have been better here, with corresponding sockets on each inner cockpit wall.

COCKPIT COLOUR

I chose to paint my cockpit in an approximation of interior green as there seems to be much debate on which colours were used (and when) on the TBD-1. I'm always pleased when there's some ambiguity about specific colours and their timings because it gives me the 'green light' to paint whichever shade pleases me, within reason. I mixed the green from Tamiya XF4 Yellow Green, with a few drops of XF26 Deep Green to tone it down a little. Brownish oil paint colour-washes were applied to lift the detail and small items were painted by hand using Vallejo Acrylics.

The torpedo/bomb-aiming station is provided underneath the main cockpit, a nice touch, and there's even a clear window and the option to pose the aiming doors in the open position. I chose to fit them closed as I'd imagine they'd rarely be open on a parked aircraft, and this would also simplify construction. The fit of the doors in the shut position was quite poor and I had to file and sand them in places to form a snug fit. With the cockpit complete, it was time to close up the fuselage halves; the instructions would have you adding the tail hook at this point but I strongly suggest you fit this at final assembly. This is easily achieved by trimming off the two location pins and simply popping the part into its recess once the model is painted.

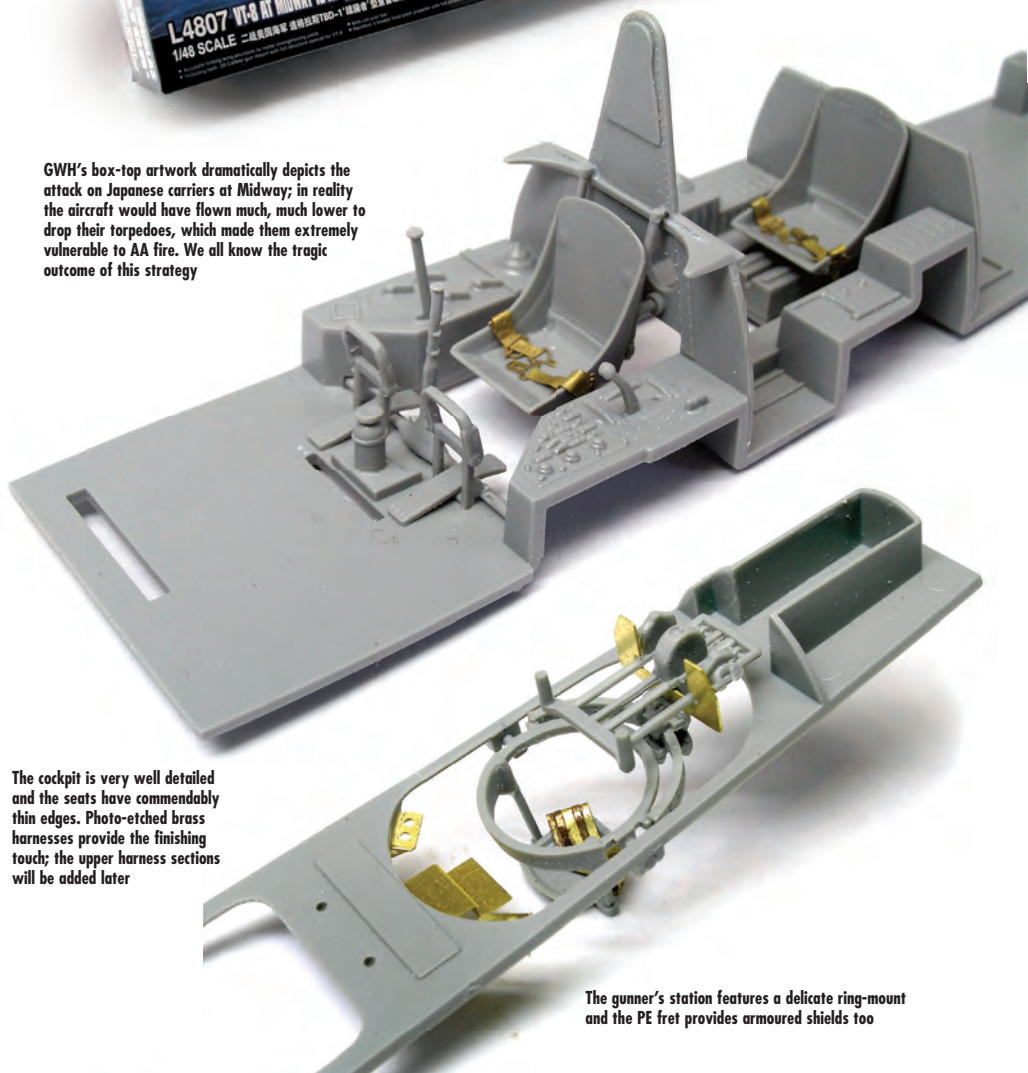
I skipped the addition of the small upper cockpit parts such as the brace (D51) and photo-etched torpedo sight until later as I would need to mask off the cockpit for airframe painting and these ultra-delicate items would be torn off in the process.

ENGINE

GWH provide a beautiful twin-bank Pratt and Whitney engine that comes with double exhaust collector rings, separate gearbox housing and photo-etched ignition harness; it's extremely well detailed. I painted the main mouldings semi-gloss black, then applied a light overspray of Mr Hobby Super Metallic Titanium, finally drybrushing with silver to highlight the ribbing on the cylinder heads. The gearbox was sprayed semi-gloss grey and the exhaust was also sprayed with the Titanium, followed by a thinned glaze of Vallejo Game Ink 'Sepia' to impart a heat-stained look. Only a small bit of each exhaust stub can actually be seen on the completed model so all that effort was hardly worth it!

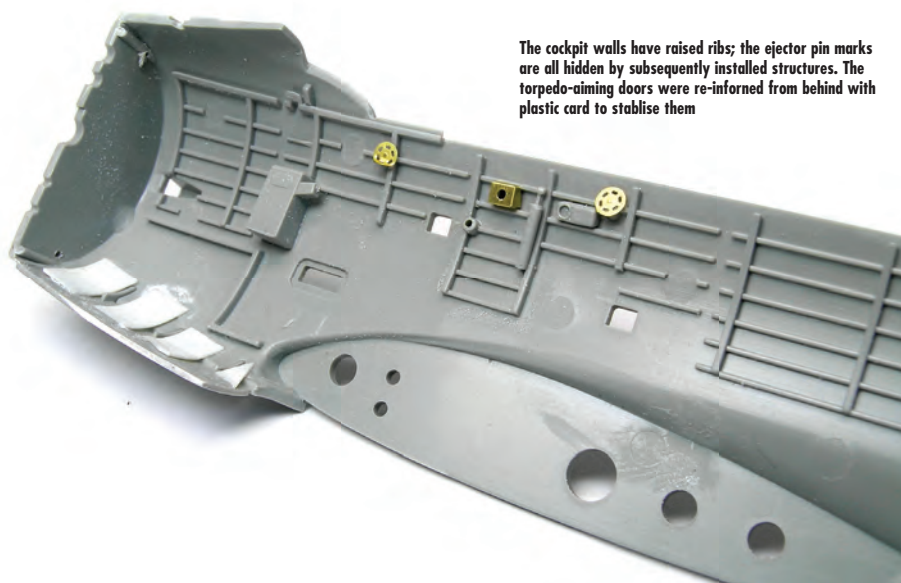


GWH's box-top artwork dramatically depicts the attack on Japanese carriers at Midway; in reality the aircraft would have flown much, much lower to drop their torpedoes, which made them extremely vulnerable to AA fire. We all know the tragic outcome of this strategy

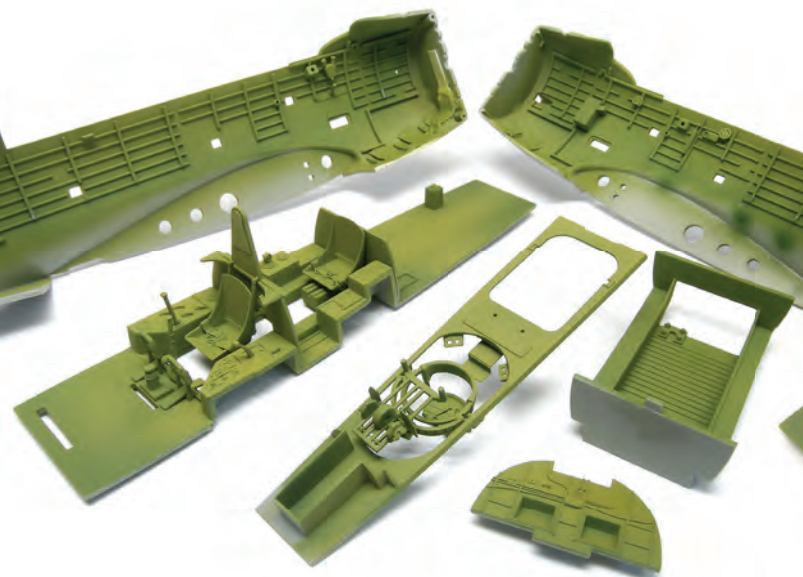


The cockpit is very well detailed and the seats have commendably thin edges. Photo-etched brass harnesses provide the finishing touch; the upper harness sections will be added later

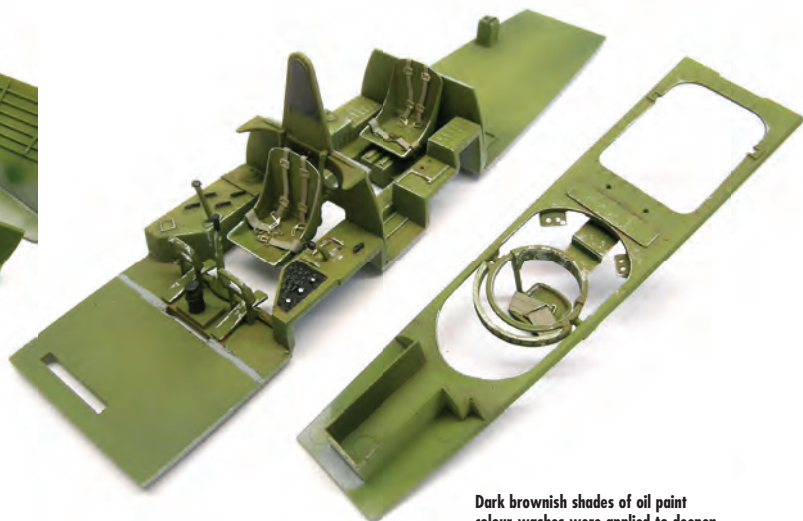
The gunner's station features a delicate ring-mount and the PE fret provides armoured shields too



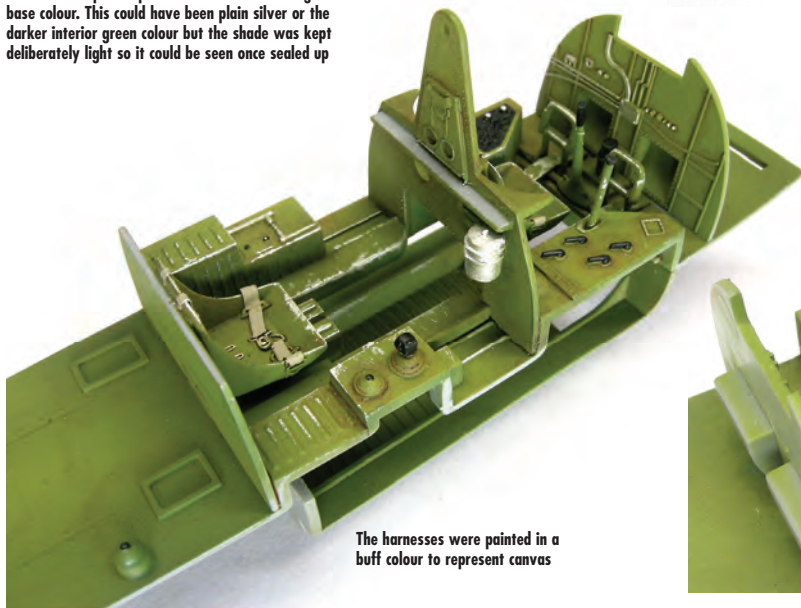
The cockpit walls have raised ribs; the ejector pin marks are all hidden by subsequently installed structures. The torpedo-aiming doors were re-inforced from behind with plastic card to stabilise them



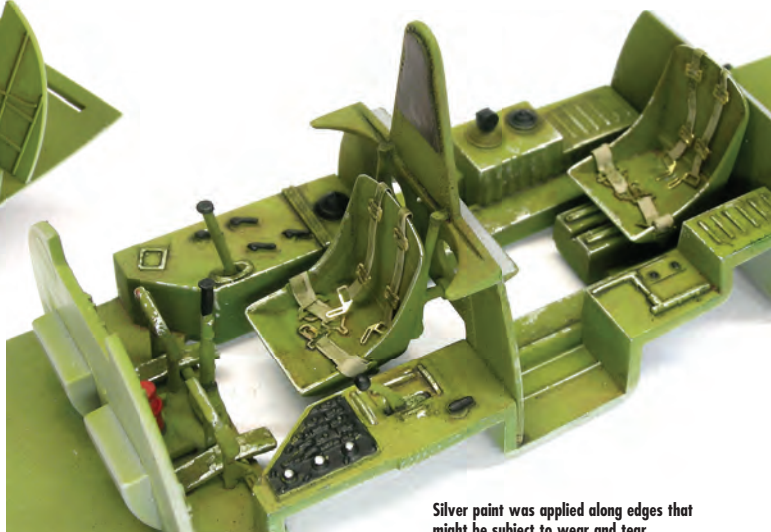
The main cockpit components in their chromate-green base colour. This could have been plain silver or the darker interior green colour but the shade was kept deliberately light so it could be seen once sealed up



Dark brownish shades of oil paint colour-washes were applied to deepen the detail

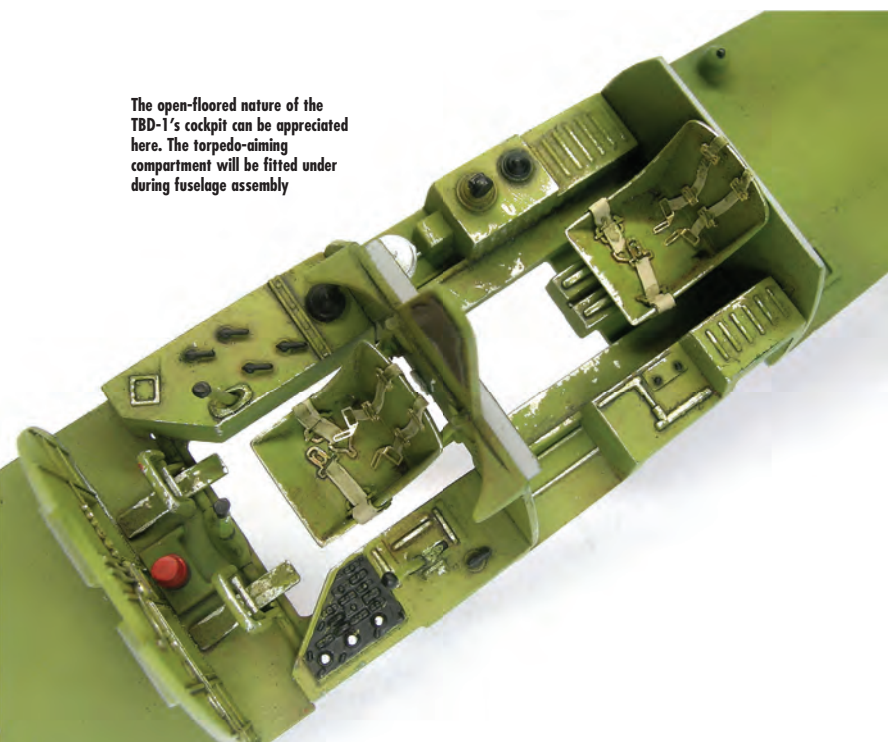


The harnesses were painted in a buff colour to represent canvas

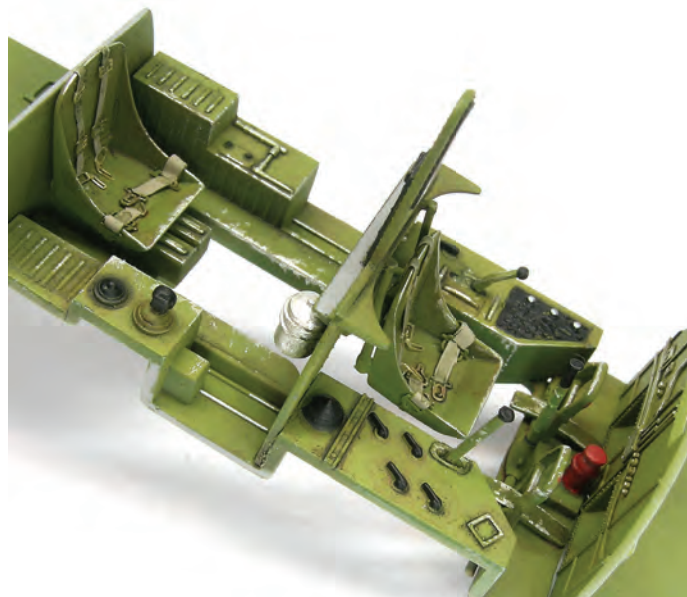


Silver paint was applied along edges that might be subject to wear and tear

“The gunner’s machine-gun ring builds into an extremely well detailed but very delicate sub-assembly.”



The open-floored nature of the TBD-1’s cockpit can be appreciated here. The torpedo-aiming compartment will be fitted under during fuselage assembly



◀ PROPELLER

The propeller blades are surprisingly thick-eared in section for such an apparently refined model so I sanded them down quite a lot for a more scale-like appearance. After airbrushing black, I applied – or rather, tried to apply – the blade tip colour dashes. These don't come even close to fitting and I had to touch them up with red, yellow and blue paints with a less than perfect effect as a result. Once matt varnished, the blades were masked off and the hub airbrushed with Mr Hobby Titanium; I like this colour because it's a nice warm shade of silvery metal and can serve many different needs. Once dry, the hub was given a light colour-wash using dark brown oil paint, thinned with white spirit.

CRITICAL SEQUENCES

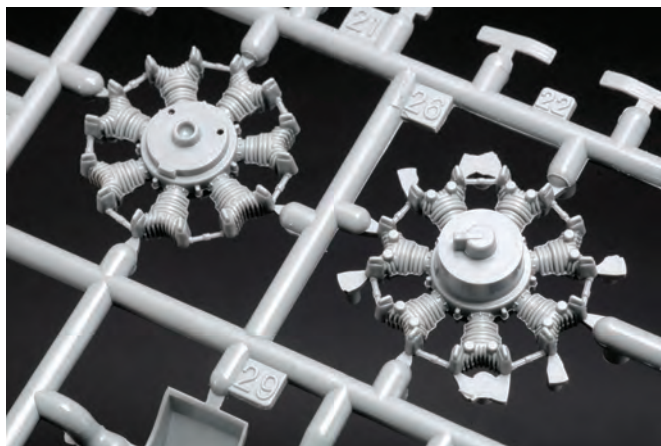
The aforementioned crucial steps were approaching; the wings' folding mechanisms and the ribbed pattern on them. It is theoretically possible to fit the wings in the extended position on this kit but in reality, quite a gap was formed when I test-fitted them and some extremely tricky filling/scribing would be needed for a realistic result, so I quickly decided they'd be fitted in the folded position. On the Devastator, the folded wings don't obscure the canopy too badly so it wasn't a big deal. I made up the outer wings first and I was relieved that ribbing lined up perfectly with almost no need for filler; the liquid cement sealed it all up. The instructions suggest fixing the lower central section (B1) to the fuselage first, then adding the inner/upper wing-halves (B6 and B7) to it. In practice I found that this resulted in either badly aligned ribbing on the leading edges or gaps at each wing root; I couldn't achieve a good result. I decided to firmly cement the wing parts together and leave them to cure overnight, then deal with the wing root gap once the ribs were solidly aligned. To achieve this, you must trim off the ridges that run around the wing roots on the fuselage halves otherwise they won't fit at all. I found by doing this, I was able to run a length of tape from wingtip to wingtip via the top of the fuselage and gently squeeze the wing stubs upwards until the gaps disappeared; liquid cement was painted along the joins and the whole lot left overnight again to harden.

FIXING THOSE WINGS

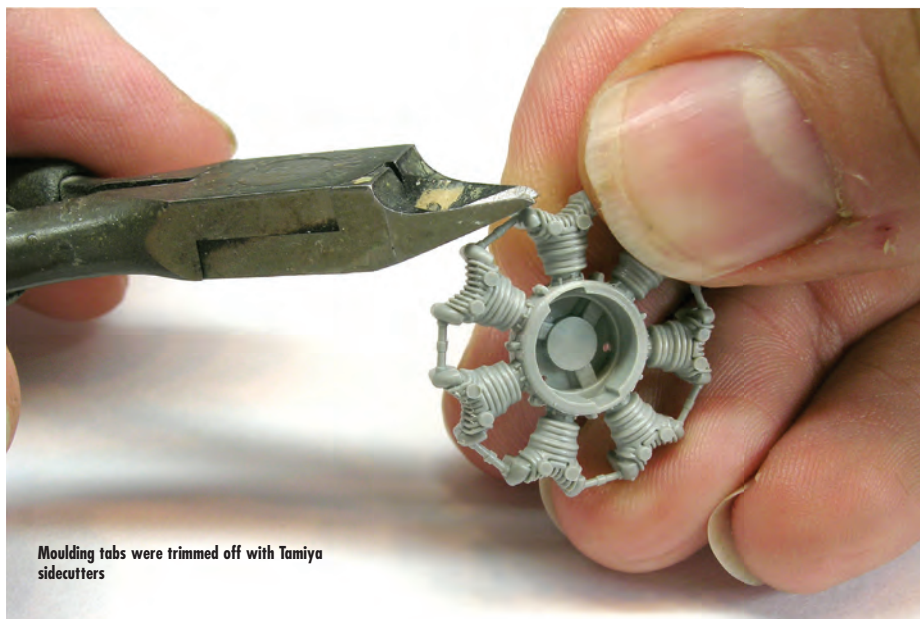
GWH didn't give a whole lot of thought as to how the outer wing halves actually mount to the inner sections. The fit is pretty bad here and the outer wings will easily break off if not properly secured; the little metal hinges, while nicely detailed, are not man-enough to support the outer sections on their own. I decided to glue thick plastic strips to the 'tab' sections of each outer wing where they hinge downwards, which would create enough surface area to enable them to be glued in place using a thick welt of gel-type CA glue. This simple modification is completely out of view on the finished model and creates a much stronger bond than just resting the wings in place as the instructions suggest.

CANOPY HELL

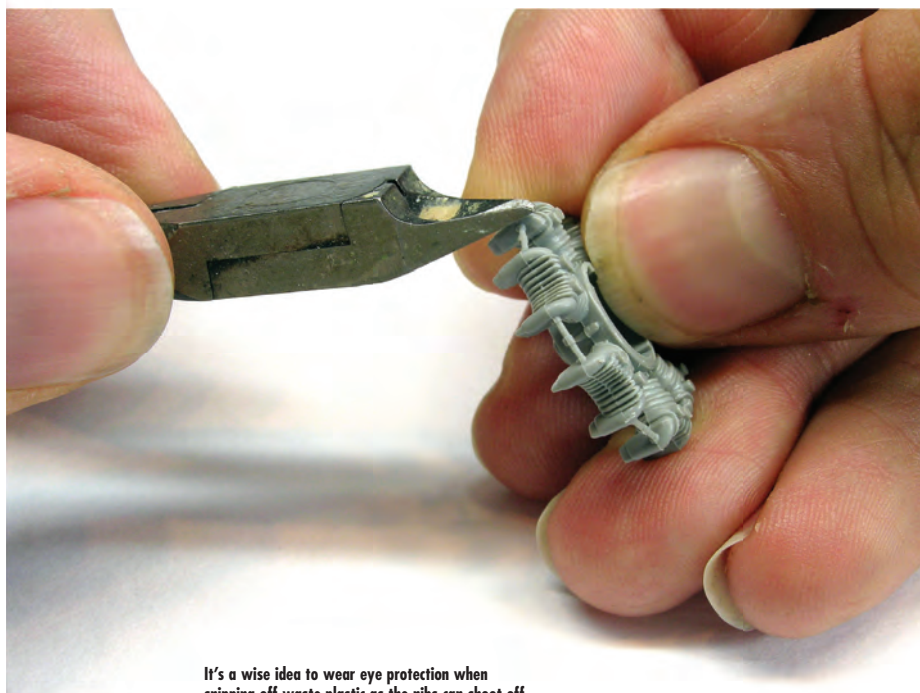
I was not looking forward to painting the canopy framing on this kit as it's made up from an amazing number of individual panes. GWH include a sheet of pre-cut masks but the material from which they are made is too rigid and the glue too weak, so they peel off before you've had a chance to pick ▶



The kit includes a beautiful replica of the Pratt and Whitney twin-bank radial engine



Moulding tabs were trimmed off with Tamiya sidecutters



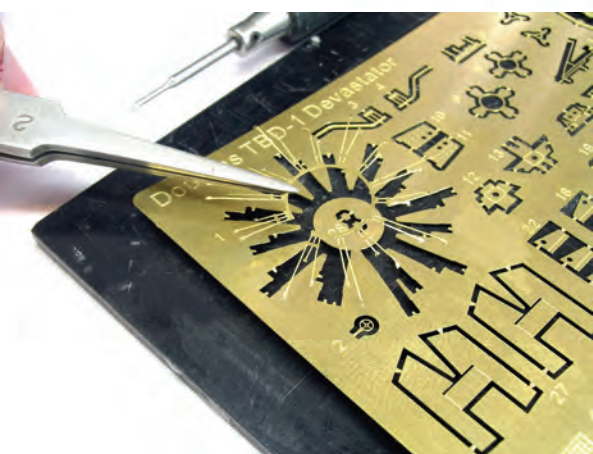
It's a wise idea to wear eye protection when snipping off waste plastic as the nibs can shoot off in all directions



Here we see the moulded parts for the engine; blocks/cylinder heads, pushrod rings, gearbox and exhaust collector rings



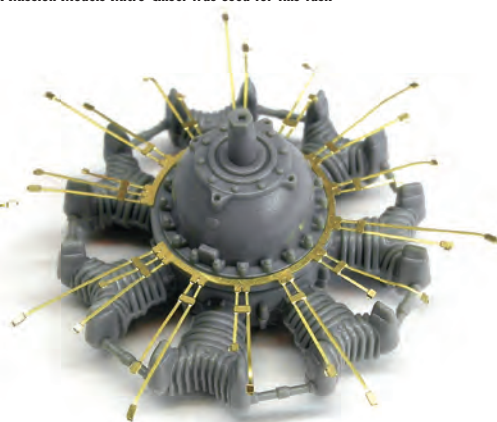
The ignition lead harness is extremely delicate and must be carefully trimmed from its fret. A Mission Models Micro Chisel was used for this task



Once all the tabs had been cut through, the component can be lifted away from the fret



Tweezers are essential when handling this fragile part!



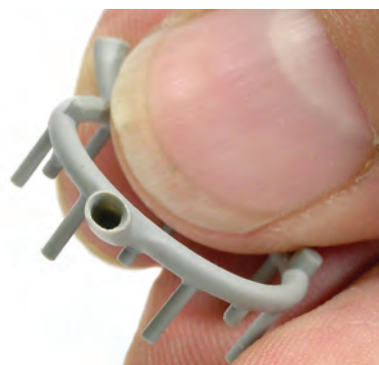
It's a drop-fit onto the engine, the modeller just needs to fix each lead-end to the appropriate positions on the cylinder heads



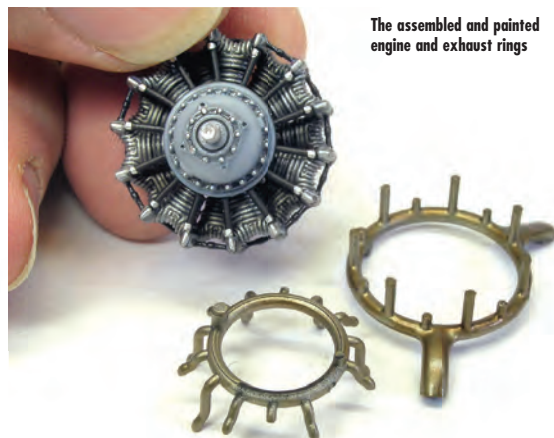
The exhausts mount to the firewall and the engine then fits over them, an eminently sensible solution



With great care, the exhausts were drilled out and a diamond grinding burr was used to refine the edges to scale thickness



Here we see the result of the delicate drilling and grinding operations; scale thickness exhaust outlets



The assembled and painted engine and exhaust rings

The 'core' of the TBD-1 is complete; the cockpit must now be masked off



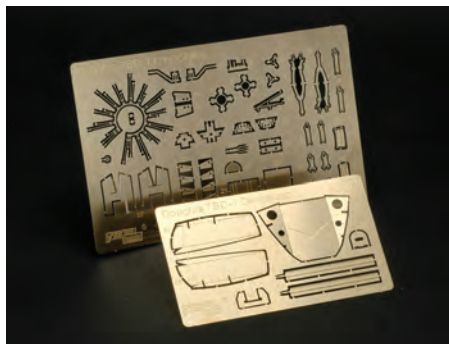
Airframe exterior sports extremely fine recessed panel boundaries, the rudder has stressed-fabric effect



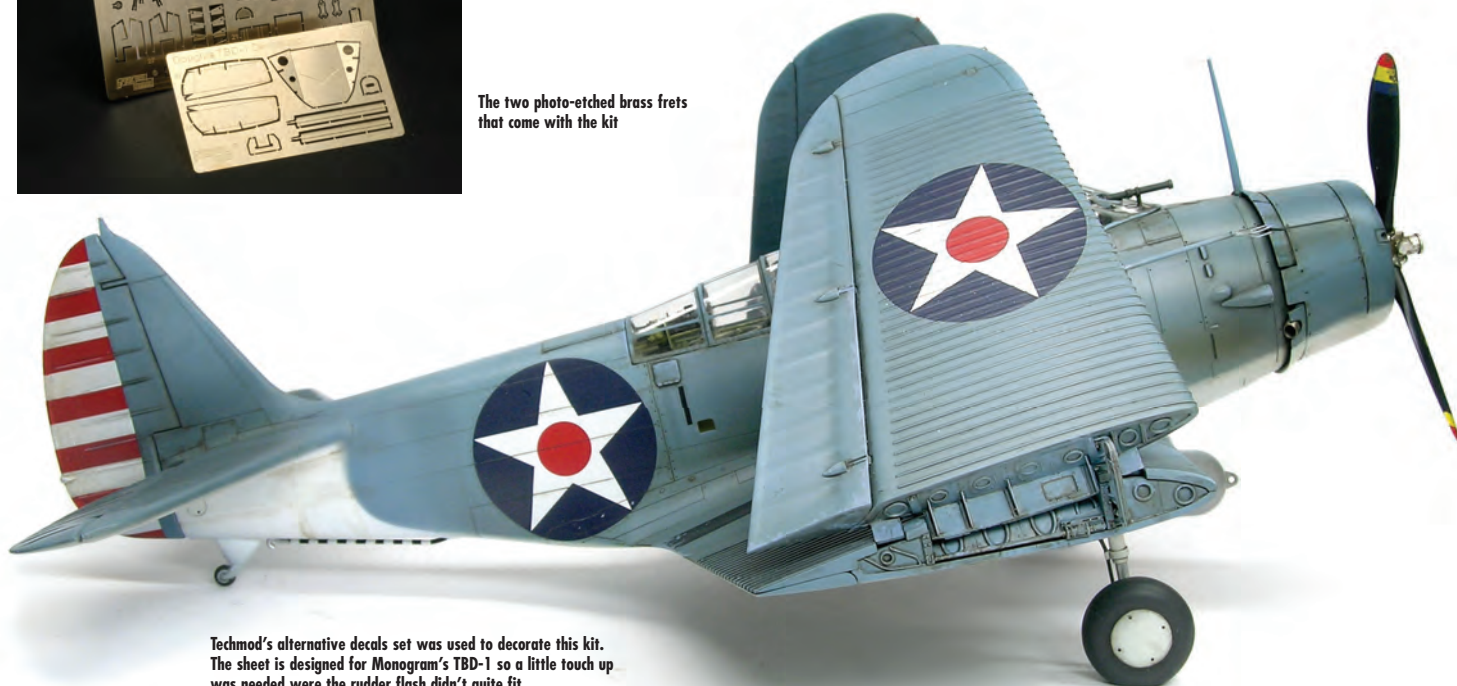
Kit decals include markings for VT-8 aircraft at Midway



The fit of the fuselage halves around the cockpit decking was impressive, with only a tiny amount of filler being needed



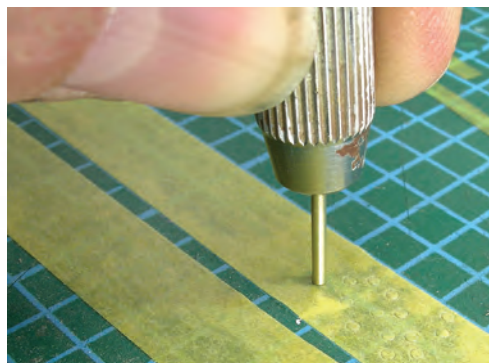
The two photo-etched brass frets that come with the kit



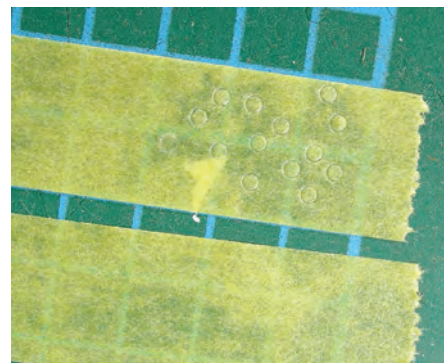
Techmod's alternative decals set was used to decorate this kit. The sheet is designed for Monogram's TBD-1 so a little touch up was needed where the rudder flash didn't quite fit



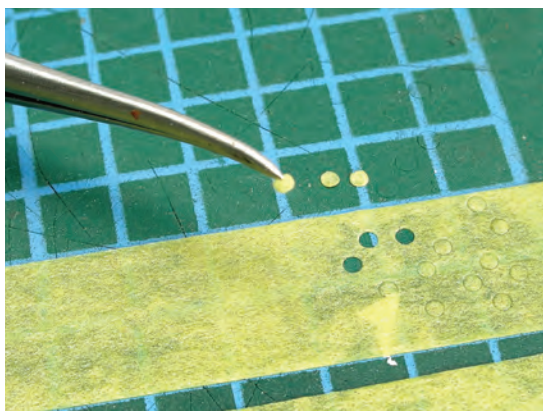
Tiny discs would be needed to effectively mask off the radiused corners of the canopy frame. A punch was made from a length of brass tubing and its edges were sharpened with sandpaper



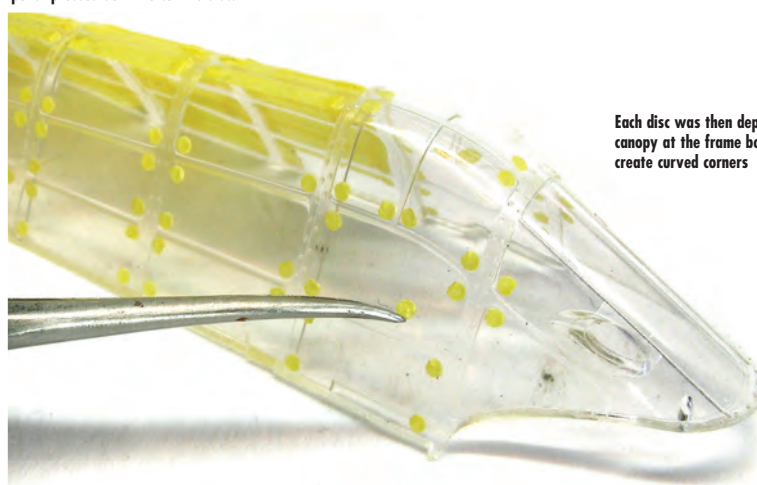
Lengths of Tamiya Masking Tape were applied to a cutting matt and the punch pressed down to cut the discs



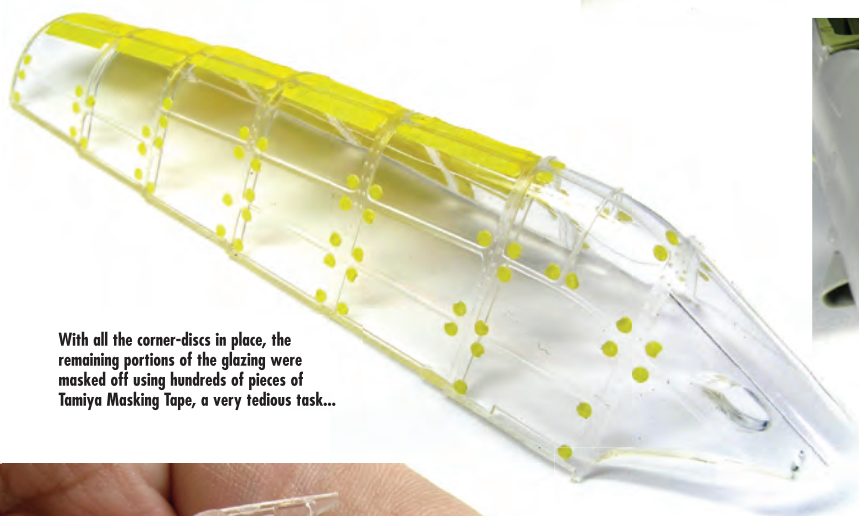
Here we can just see the discs punched into the tape



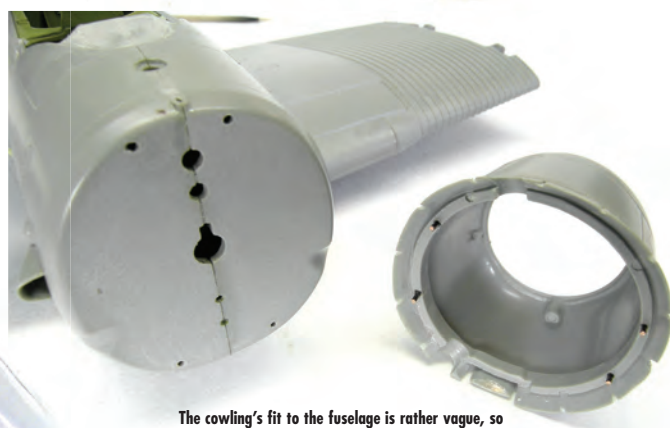
Needle-tipped tweezers were used to pick up the discs one at a time



Each disc was then deposited on the canopy at the frame boundaries to create curved corners



With all the corner-discs in place, the remaining portions of the glazing were masked off using hundreds of pieces of Tamiya Masking Tape, a very tedious task...



The cowlings fit to the fuselage is rather vague, so it was pinned in four places with short lengths of thick copper wire, just visible here



GWH offer individually moulded canopy sections but the author could not figure out how they should fit together, so sadly, the closed-up option had to be used



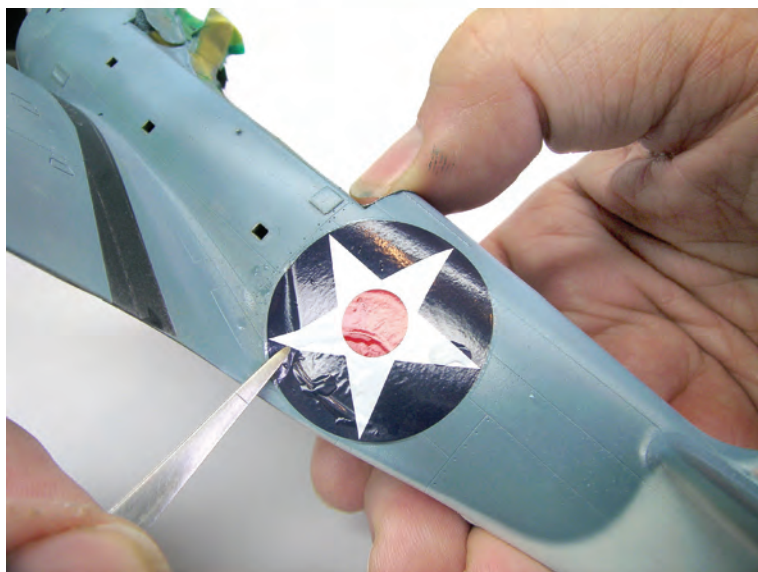
The tyres come 'pre-squashed' and the brake lines are moulded in with the UC legs, both excellent inclusions



Techmod's excellent decal set was used on this model to add a little colour. Daco's 'strong' setting solution was used to help the markings settle and conform to the model's compound curves



Firstly, the area to receive a decal was wetted with plain tap water, to allow the marking to slide around a little for accurate positioning



The decal was then slid into place and tweezers used for final placement, and then gently pressed down with a clean piece of kitchen paper

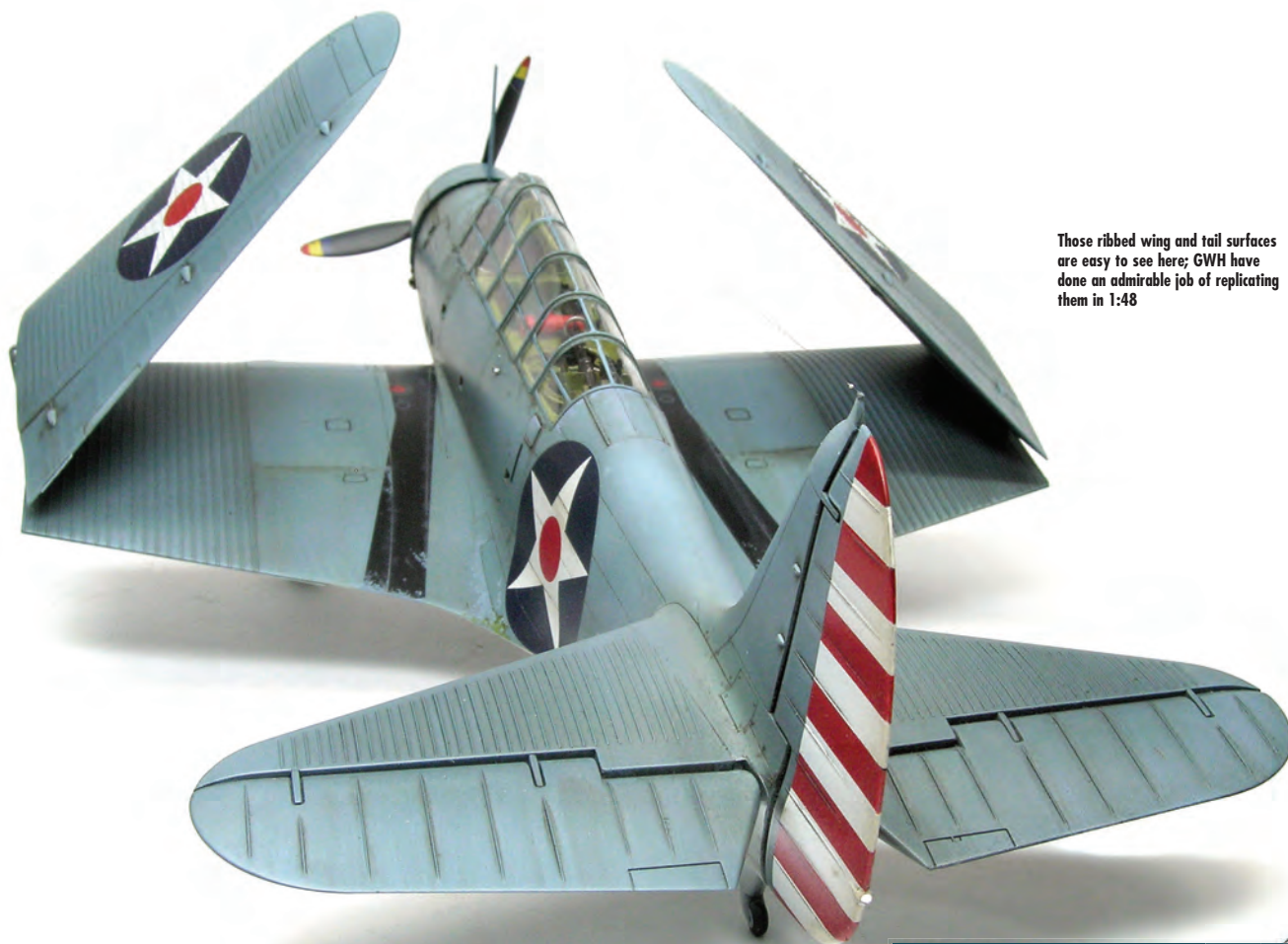


Daco setting solution was painted over the decal and allowed to do its thing; this can take several hours, so do not touch it!

A TBD-1 from VT-6 over Wake Island, 1942



Getting the large US national insignia to conform to the ribs would be a challenge during decalling, but they went on like a dream



Those ribbed wing and tail surfaces are easy to see here; GWH have done an admirable job of replicating them in 1:48



We can see how low the Devastator must fly to drop its torpedo without causing the weapon to break up upon impact with the water



A TBD-1 from VT-6, still in its lovely 'yellow wings' colour scheme; a modelling project for another day...

up the airbrush. Eduard now make a mask sheet for this kit but it didn't arrive in time for this article, so my only choice was to mask it up by hand. What fun. I had intended to use the sectional, opened-up canopy because (in my opinion) the TBD-1 looks at its most interesting this way, but I couldn't make head-nor-tail of how the sections should fit together and the instructions were no help either. So, closed-up was the default choice. Adding to the joy of masking this canopy is the fact that almost every panel has a radius corner, so you can't just cut little sharp-cornered squares and stick them on. In desperation I found a neat solution though, and the photo sequences show how I achieved it.

PAINTING TIME

To paint the model, I made my own mix of 'Intermediate Non-Specular Blue FS35164' from Tamiya X4 Blue, XF2 Flat White and XF1 Flat Black. I made two mixes; one with more black added to act as a shading layer and another, lighter mixture with more white, for highlights. The undersides were simply painted with XF1 Flat White. Instead of the kit's decals I chose Techmod's sheet No.48808 which includes

the earlier, more colourful 'high-vis' national insignia with the red/white rudder stripes; my thanks to Techmod for kindly supplying this superb set of decals. The aircraft I chose was Bu.No.0319 'Black 1' of Lt.Cdr JF Taylor of VT-5, off USS Yorktown CV-5 as it would have looked in March 1942. The decals went on extremely well, but they are designed for the Monogram kit so the red/white tail flashes will need a little touch up where they don't quite fit GWH's rudder - not Techmod's fault.

FINAL THOUGHTS?

To sum up, GWH have done a generally excellent job with this kit. It supercedes Monogram's model, while still a lovely old Monogram production, is showing its age nowadays (although I have seen some stunning renditions of it). There were a few grumbles during construction, but nothing major and the lovely touches of detail more than made up for its few shortcomings. Recommended, but not as a first aircraft kit for a novice modeller. I dedicate this article to the immeasurably brave TBD-1 crews who were killed during the early Pacific campaign. •

MINI MODELSPEC

Douglas TBD-1 Devastator

Kit No.L4807

Materials:

Injection-moulded light grey and clear polystyrene, photo-etched brass, pre-cut masks, waterslide decals

Paints used:

Tamiya XF2 Flat White, X4 Blue, XF1 Flat Black, XF4 Yellow Green, XF26 Deep Green

Accessories/materials used:

Copper wire, brass tubing, Techmod decal set No.48808

Availability:

Greatwall Hobby; www.airbrushes.com

Techmod; www.techmod.com.pl

Brass rod; www.albionallloys.co.uk

TDB-1 vital statistics:

Fuselage length; 35" (10.67 metres)

Dry weight; 5,600lb (2,540 kg)

Combat weight; 9,289lb (4,213 kg)

Engine: Pratt & Whitney R-1830-64 Twin Wasp radial engine, 900hp

Crew: Three; pilot, torpedo officer/navigator, radioman/gunner

Performance

Maximum speed; 206mph at 8,000ft

Cruising speed; 128mph

Range; 435 miles (700 km) (378nm, 700km) with Mk XIII Torpedo,

Weapons load

Bombs;

x1 1,000lb (454 kg) bomb or x2 500lb (227 kg) bombs, or x12 100lb (45 kg) bombs, or x1 Mark XIII torpedo

SQUADRON EAGLEQUEST XXI

The Editor makes a return trip to Dallas Texas for Squadron EagleQuest XXI.

After first visiting Squadron EagleQuest XIX in 2010, I was very pleased to be invited back for this year's show.

Squadron EagleQuest has its origins in Mastercon, which was established by VLS in 1992 as a yearly competition and social gathering over the American Labor Day weekend. Squadron continued this tradition following its acquisition of VLS in early 2007, moving the event to Dallas, close to its head office and warehouse.

Although visitors were undoubtedly excited about the competition and seminars, the priority on Friday morning was the Squadron Open House. The prize on offer to Premium Pass holders was a 40% discount on all stock in Squadron's cavernous (and mercifully air-conditioned) warehouse. The rush was on, with Squadron supplying shopping trolleys for this one-day styrene shopping spree. Office staff were pressed into service as checkout operators while the shoppers piled up their plastic plunder. In addition to the hefty discount, Squadron offered free shipping for purchases – very convenient for interstate travellers.

Meanwhile, back at the Embassy Suites hotel, the tables were filling with high quality models in competition. Categories were open to aircraft, armour, figures, dioramas, cars and more, for both senior and junior modellers.

The awards are not decided by a panel of judges, but by the entrants themselves. Multiple Gold, Silver and Bronze medals are awarded based on the popular vote. Major prizes, including the impressive "Big Eagle" Master's Trophy, are decided after a run-off between the best models decided in each category. These major trophies are voted on during the course of the Saturday night banquet. A number of special categories were awarded on the night too, including this year's theme, "Fantasy", the Squadron Award for Best Scratch Built Entry, Best Camouflage, Tamiya Award, Squadron Creations Award for the best use of a Squadron product and Best Basic Division Entry.

I was also again pleased to see the number of junior modellers at the banquet and in the competition. A number of younger visitors in attendance were inspired to declare their intention to build a model for the show next year too.

Six seminars were held over the course of the two-day event, including David Doyle's military vehicle presentations, live demonstrations



An impressive diorama featuring a 1:32 scale Zero downed in the jungle.



Jim Wechsler looks pensive as he checks in to the show on Thursday afternoon.



Prolific author David Doyle with his wife Denise.

Automotive modeller Peter Johnson demonstrates gloss painting techniques.



Academy's 1:72 scale P-51A Mustang.



1:48 scale SBD Dauntless.



Far left: Mark Glidden's 1:32 scale Spitfire Mk.XVI took out the Tamiya Award.



Left: Tamiya's 1:48 scale P-51B Mustang in German markings.



A striking finish for this 1:32 scale Revell (ex-Matchbox) Egyptian Spitfire Mk.24.



Hasegawa's 1:72 scale F-4J Phantom.



A Soviet 1:48 scale P-39 Airacobra.



Hasegawa's 1:32 scale Messerschmitt Bf 109 F is finished here in Regia Aeronautica markings.



1:48 scale Focke-Wulf Fw 190 F-8 in winter camouflage.



This impressive 1:48 scale B-32 Dominator is a combination of three kits plus scratch built parts.

conducted by renowned automotive modeller Peter Johnson, while I spoke about the state of the hobby, HyperScale history and also conducted a live airbrush demonstration, using a compressor and tools supplied by Squadron and Jef Verswyvel's own Iwata airbrush!

Friday night saw the Welcome Reception hosted by Squadron's President, Mike McMahon. This was a great opportunity to catch up with fellow visitors, but it also saw the voting for the 2013 EagleQuest Grand Marshall. This piece of business was hilarious at times, thanks to the antics of Hal Sanford and the long-serving EagleQuest committee.

A new feature for this year was the display of a number of military vehicles on the Saturday. Lined up in the car park right outside the venue was an impressive selection including a rare Austin Champ, a Jeep, a Saladin armoured car and more.

Saturday night's Banquet was fun too. Once again, despite a daunting number of awards to present, the proceedings were generally efficient and entertaining. The raffle is a highlight of the show, with some of the best of Squadron's products on offer in a range of ticket prices. Drawing the tickets and presenting the prizes on Saturday night proved to be hilarious.

EagleQuest is nowhere near the scale of an IPMS Nationals, but its compact size affords the atmosphere of a family reunion to this friendly show. EagleQuest is also very well organised. The venue used in 2012 and over the last few years, the Embassy Suites resort, was comfortable and had all the facilities you could ask for.

Visitors can walk in and view the models for free, but registered pass holders get great value for money including the 40% discount during the Squadron Open House spending spree, full access to all the seminars, a raffle ticket, a book, complimentary food and beverages, and more.

Keep an eye out for news of Squadron EagleQuest XXII in 2013 – it will be well worth a visit!

Brett Green – June 2012

I would particularly like to thank Mike McMahon, the staff of MMD Squadron and the competition organisers for their remarkable hospitality during my visit to EagleQuest XXI. •



Tamiya's 1:48 scale P-51D Mustang was posed in this clever in-flight display.



This Wingnut Wings' 1:32 scale DH.9a was beautifully finished.

"EagleQuest is nowhere near the scale of an IPMS Nationals, but its compact size affords the atmosphere of a family reunion to this friendly show."



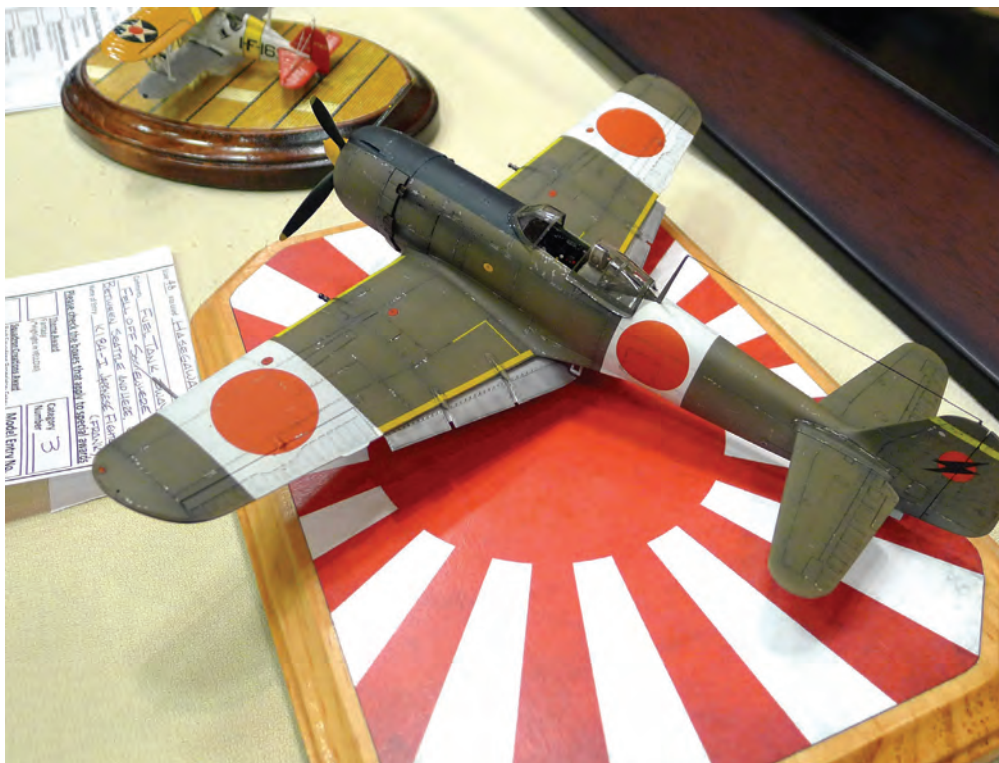
Small but perfectly formed. Only the fuselage of CMR's Sikorski 1:72 scale S-38 has been used here. The rest is scratch built.



Tamiya's 1:48 scale Fieseler Storch.



Monogram's (Hasegawa mould) 1:48 scale Arado Ar 234 C matched with Tamiya's V-1 for a Huckepack.



Hasegawa's 1:32 scale Ki-84-I Frank was displayed on a striking rising sun base.

"The awards are not decided by a panel of judges, but by the entrants themselves"



Hobby Boss 1:48 scale Mirage.



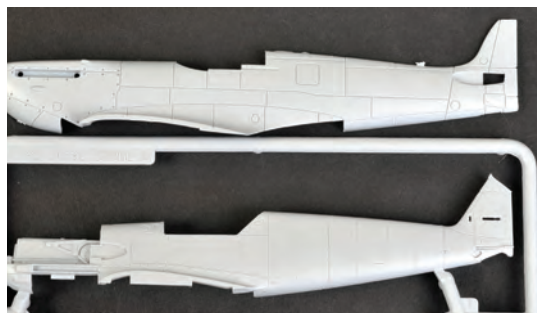
Elements of the Monogram B-25J Liberator and 1:72 scale B-36 have been added to the B-29 to deliver this remarkable result.

THE SECOND TIME AROUND

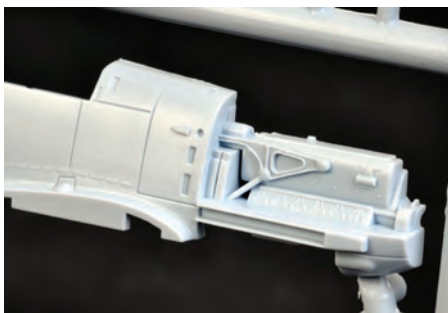
Glen Porter takes a stroll down memory lane, and compares the new Airfix 1:72 Bf 109 E-4 to its predecessors.



Any scheme you want as long as it is Von Werra! There are plenty of after-market options available though.



Finer panel line details compared to the earlier Spitfire Mk.I? You be the judge.



Partial engine detail is moulded to the fuselage.



Separate canopy parts.

Bf 109 Es have been well covered in 1:72 scale right from the beginning of the hobby way back when. Airfix, Matchbox and Heller gave us well-shaped models that lacked detail and were in some instances covered in gigantic rivets.

Hasagawa and Academy threw a spanner in the works by giving us models with very nice mould quality but so badly shaped that they couldn't be fixed; and that is where we sat for many years.

Tamiya finally released a 1:72 scale 109E with excellent shape, details and engineering so good you could almost assemble it without glue. ICM of the Ukraine, cloned it and in the process fixed the one fault, a short rear fuselage, but introduced some sink marks and soft detail.

And so back to Airfix. What goes around comes around.

Their new toolings have been getting better and better. With their Swordfish, Airfix showed us they are willing to put some thought into their kits, becoming the leaders rather than just following them.

Another thing that Airfix is getting very good at is giving us excellent box art, in this case Von Werra being shot down over Britain before his holiday in Canada. It is an end-opening box, but

because it is small that is not really a problem. As this is a Series 1 kit, it won't come with the sprue carrying the bomb, drop tank, extra spinner etc, and will only have one decal option and that being the above mentioned Von Werra (The One That Got Away), a very popular option.

The two fuselage halves have some engine detail but not enough to warrant having the cowl off as the machine guns are moulded into the cowl. Sharing the sprue with the fuselage are the prop and spinner, tail planes, most of the cockpit detail, rudder, main and tail wheels and the oil cooler cowl plus other small items.

The three-piece wing features separate flaps, undercarriage legs and doors, radiator baths and the undercarriage-up optional parts. Although the slats are moulded retracted, they are done in such a way that it should be easy to cut them out and have them deployed. The lower part of the slat, normally moulded onto the lower wing, is given to us on the upper wing.

Yes, there are issues. The instrument panel has no moulded detail, just a decal. As mentioned above, the cowl guns are moulded into the cowl instead of on top of the engine and the engine block lacks most other additional details. The prop could be a bit beefier, there are no trim wheels in

the interior, and the sidewall detail is not quite as good as Tamiya/ICM.

There have been claims that the clear parts were a little thick and that the canopy was a "G" item at the British museum. This is not the case. They are as thin as any I've seen and it is definitely an early style canopy although it is not quite correct. It's also been stated that the head armour is wrong in that it mounts on the sill behind the seat rather than in the canopy; but again it is actually moulded correctly and is designed to be glued to the canopy interior.

The panel lines don't look to me to have been improved much. We have included a Mk.I Spitfire fuselage half along side the 109 item for comparison and you can make up your own mind. If there is any reduction it is only minimal.

Decals are as we have come to expect from the new Airfix, minimum film, perfect register and a full set of stencils.

In my opinion, this is the best 1:72 scale 109E kit on the market. Sure, in places it lags behind the Tamiya/ICM kits but with those flaps, slats and price it wins.

It feels like Airfix is starting all over again, only better. Yes!

Airfix kits are available online from Hannants www.hannants.co.uk and hobby shops worldwide. •

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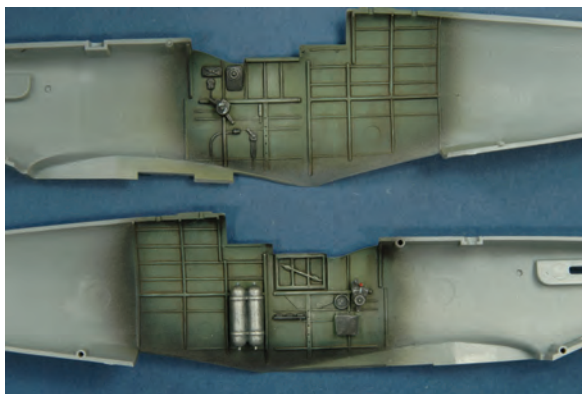
ONE OF THE FEW

Gary Edmundson takes a break from armour modelling for a relaxing build of Tamiya's 1:48 scale Supermarine Spitfire Mk.I

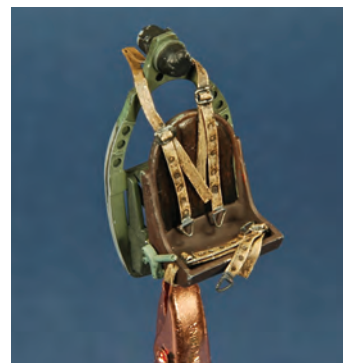




Seat belts were made from strips of lead sheet



After base painting the interior black, chromate green was airbrushed over this and details picked out in Vallejo acrylics



The pilot's seat detail with seatbelts added and painted. They belts had to be moved later when references showed their correct routing.



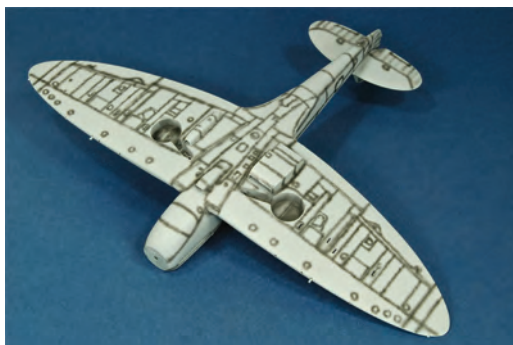
Pilot's control stick and instrument panel were detailed with Vallejo acrylics and weathered with oil paints.



Once the fuselage halves are joined, there is not much to see of the interior through the small canopy area.



Far Left: The engraved lines of the kit were pre-shaded by spraying fine lines using Tamiya's well-thinned XF-1 Black



Left: The key is patience when pre-shading the panel lines, and the results are most noticeable on the lighter undersurfaces.

To take a break from the intense world of 1:35 scale AFV modelling, I find it therapeutic to occasionally put together a well-engineered 1:48 model aircraft as a different project. It had been decades since I'd built a model of a Spitfire and the opportunity to get a hold of the Tamiya kit of the Mk.I presented itself recently.

Early Spitfires have few references compared to the later Mk.Vs and IXs, but I had accumulated a few books and magazines over the past years to make a reasonable go of it. Recent searches on YouTube and also Flypast magazine revealed that at the time of writing two air-worthy Spitfire Mk.Is have been restored and taken to the air again.

INTERIOR CONSTRUCTION

Although the cockpit parts are better displayed with the pilot's left hand door open, I left it closed to keep the sleek lines of the fuselage more intact. The kit provides a separate hatch door (part A29) for this, but I question the detail of the small crowbar placed diagonally on the inside. Photos of the real thing showed this was not common (if fitted at all) on the early Spitfires.

To dress up the interior a bit, I made seat belts out of strips of thin lead sheet. Buckles were

made from small scraps of copper wire, and the grommet holes were simulated by pressing in the tip of a miniature hole punch. The seat had two small slots drilled out at the sides for the lap belts to pass through.

I found a reference (after the fact) to indicate where the shoulder straps were situated as they disappear to the rear of the cockpit. They actually pass over the top of the seat and under the bulkhead frame directly behind the pilot's shoulders, so this detail had to be modified from the earlier mistaken placement higher up. A cable actually attached these straps to the fuselage frame, and the stiff metal foil made the modelling of this easy.

PAINTING THE INTERIOR

The interior components were first airbrushed with Tamiya's acrylic XF-1 Flat Black to give them a pre-shade, and then painted with an interior zinc-chromate green. The interior colour was mixed from XF-5 Green, XF-3 Yellow and a touch of XF-57 Buff to tone it all down. The oxygen tanks were dry-brushed using silver enamel that was toned down with raw umber oil paint. The instrument panel was airbrushed black, and the instruments were added using thinned Vallejo acrylics and a very fine 000

brush. Cockpit details were brush painted also using Vallejo's acrylics. Each of the dials received a drop of Future floor polish to give the glazed look.

Since the seat was originally made of unpainted Bakelite, it was painted a reddish brown colour. The seatbelts were painted using a light brown mix of Vallejo acrylics, with the buckles left in dark grey.

To highlight the details and give everything a worn look, the entire interior was given a wash of thinned oil paint. Varying amounts of Winsor & Newton series 3 Lamp Black and Raw Umber was thinned down with mineral spirit, and applied to a pre-soaked area of the model, allowing the pigment to settle into the recesses of the painted surfaces.

Once the oil paint wash had dried, the interior colours were dry-brushed with a lighter shade of the interior green made using a combination of green, yellow and grey Vallejo acrylics. Wiring and other details were treated in the same fashion using lighter shades of the original colours.

Metal components and worn metal weathering were done by dry-brushing with silver enamel that had been toned down with a touch of raw umber oil paint. Seat belt buckles, the edges of the metal frame and the rudder pedals were highlighted using this technique.

◀ EXTERIOR CONSTRUCTION

After the painted and finished cockpit parts had been added to the fuselage halves, the body was cemented together. Since the engineering of this kit is so well done, the wings were cemented together and added to the fuselage with very little work to do at all at the wing roots. Seam and gap filling was really minimal, with some slight gaps requiring filling with Aves epoxy putty smoothed down with their brand of thinner. All of the smaller details like landing gear, antenna, pitot tube, etc. were left off and added later to prevent breakage or loss.

PAINTING THE EXTERIOR

The painted cockpit was masked with Tamiya tape, and the model was airbrushed with Tamiya's grey primer. The primer was decanted from the rattle can into a jar and diluted with lacquer thinner. The panel lines of the kit were subsequently pre-shaded using Tamiya's XF-1 black. This was thinned considerably and sprayed at a higher pressure (40 psi) to get a nice thin line. Although time consuming, this step accentuates the detail of the model.

The lower sections of the aircraft were painted with a mixture of Tamiya XF-21 Sky with a touch of XF-57 Buff and XF-2 White, and the paint was thinned to give a subtle, gradual build-up of the colour, allowing the pre-shaded panel lines to show through. Once dry, this was protected with a coat of Future floor acrylic. The demarcation lines of the lower surfaces were masked with Tamiya's tape, which is great since it doesn't pull paint off, stays where it's put, and can even be reused to an extent.

For the Dark Earth base colour of the upper surfaces, I was surprised to read Tamiya's instructions direct the modeller to mix XF64 Red Brown with XF-52 Flat Earth. This combination gives the most awful colour bearing no resemblance to RAF Dark Earth. My preference was to stray from my beloved Tamiya acrylics and mix up one of Humbrol's old enamel tins of #29 Dark Earth. This was sprayed on diluted with a healthy amount of Testor's Airbrush Thinner. I sealed this coat of enamel with Future floor acrylic to keep the integrity of the finish as an acrylic since later weathering steps use mineral spirits, which would otherwise attack the enamel paint. Humbrol's #29 is a very pleasing colour and matches the RAF Dark Earth exactly in my opinion.

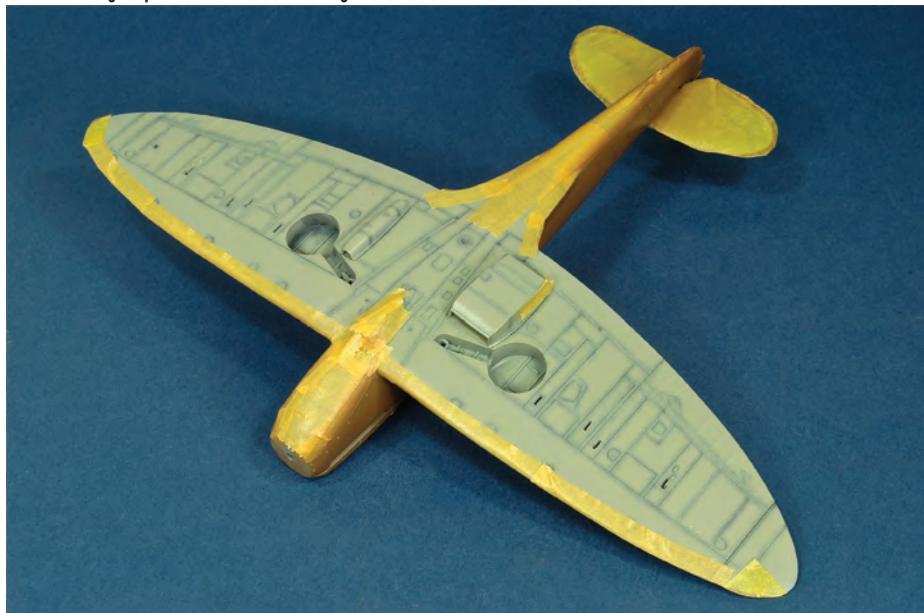
The Dark Green camouflage pattern was airbrushed on using a mix of Tamiya's XF-65 Field Grey toned down with a touch of XF-57 Buff. The pattern was masked by making some copies of the Tamiya painting guide (nicely laid out in 1:48 scale) and cutting out the patches of paper. To get a very fine soft edge demarcation line, the paper had to be held off the surface of the model approximately 1:8 inches using small balls of Stik-Tak keeping the airbrush perpendicular to the edges at all times. Future floor acrylic was again airbrushed onto the finish afterward to protect the surface and prepare the model for weathering and decal application.

DECALS

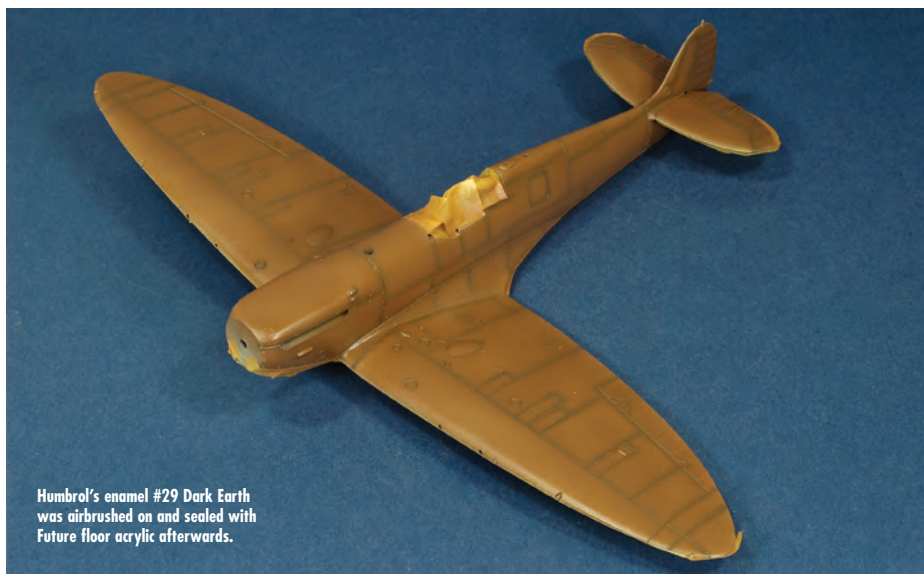
I used the kit decals for 610 Squadron "County of Chester". They were thick and difficult to manage. Having a separate white backing for the roundels, a fair amount of the kits engraved detail was lost. Solvaset was used in bucket loads but was only partially successful at getting the markings to lay down in the grooves and not show a silvering effect. The large fuselage markings of DW-O ➤



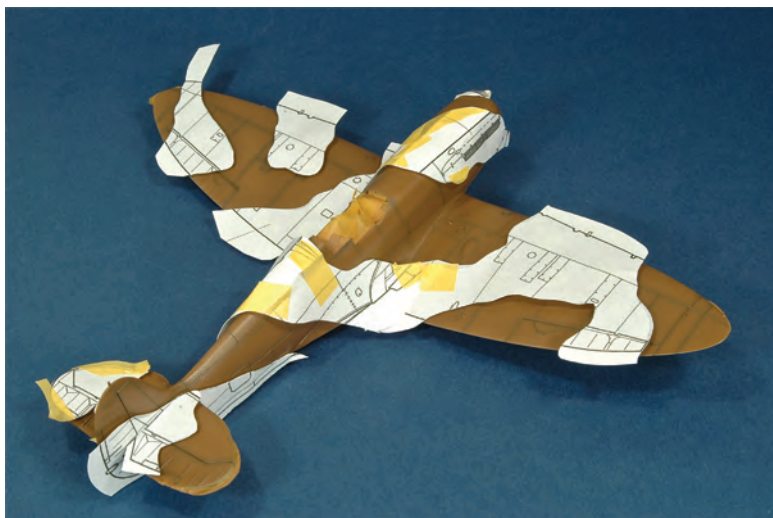
Tamiya's XF-23 Sky was thinned and toned down with white and buff, then applied to the lower surfaces allowing the pre-shaded lines to show through.



Tamiya's masking tape was used to mask the lower surfaces in preparation for the upper scheme to be painted.

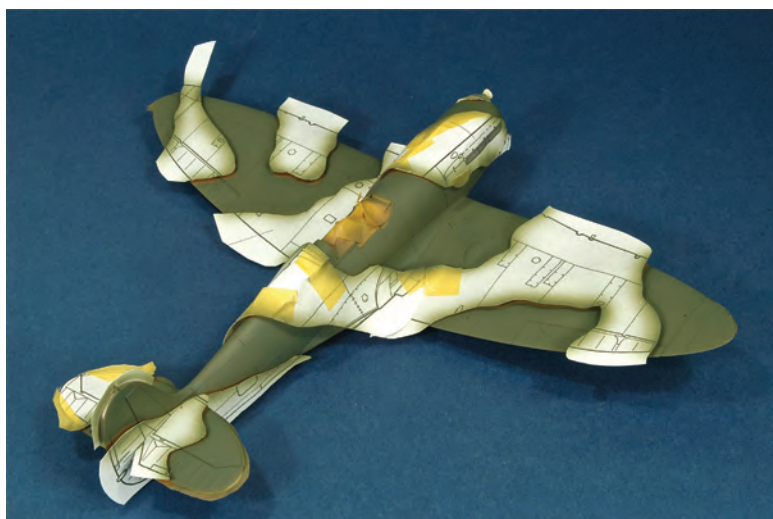


Humbrol's enamel #29 Dark Earth was airbrushed on and sealed with Future floor acrylic afterwards.



Tamiya's painting guide was photocopied, cut up and stuck to the model using small balls of Stik-Tak as a mask for the camouflage scheme.

"Although the cockpit parts are better displayed with the pilot's left hand door open, I left it closed to keep the sleek lines of the fuselage more intact."



Tamiya's XF-65 Field Grey was toned down with some XF-57 Buff and sprayed on holding the airbrush perpendicular to the masked edge.



With the masks removed from the aircraft's camouflage scheme, the finish was protected with a coat of Future to prepare it for decals and weathering.



Spitfire Mk.II
Profile by
Virgil O'Neill



The decals were thick and difficult to manage, needing liberal application of Solvaset solution.



Thinned oil paint was applied to the panel lines of the model to give it a detailed and weathered appearance.

ended up having numerous patches of silvering which needed touching up later with additional paint. Lesson learned – after market decals for my next Tamiya Spitfire. A protective coat of Future was airbrushed over the decals.

WEATHERING THE EXTERIOR

To further enhance the appearance of the panel lines, an oil paint wash was applied to the engraved panel lines. A thinned mixture of raw umber and black oil paint was loaded onto a fine brush and touched to the line, allowing it to “wick” along the length. Any surplus blobs of paint were wiped away with a clean brush after the wash had a chance to dry for a few minutes.

Black oil paint was applied to some of the engraved lines around the engine cowlings, and fairly heavily under & behind the lower cowlings area and feathered to the rear using a paintbrush dampened with mineral spirits. This gave the look of the oil and other fluid leaks typically seen Spitfire’s bellies, which could look extremely black and dirty.

The model was next given a flat finish using Vallejo Matt Medium thinned with tap water. The medium is quite thick out of the bottle, but was diluted down to a skim milk consistency before being airbrushed on.

Some patches on the wings and fuselage were painted over using a slightly different shade of the base colour to vary the appearance and break the monotony of the paint. This also added to the mottled and weathered look of the model. Silver enamel with a touch of raw umber oil paint added was painted in small spots to simulate chipped paint around the service panels and high-traffic areas.

The exhaust pipe sections were painted dark grey and then were dry-brushed with silver and gold enamels that had been toned down with raw umber oil paint. This was followed by brushing on various shades of brown pastels such as dark and light brown, tan and orange. After the exhausts were pressed into place, a very dark grey (heavily thinned) Tamiya acrylic was airbrushed aft of them and across the side of the fuselage. Photos of the original aircraft were used to determine the pattern of the exhaust stain, and how intense to make it.

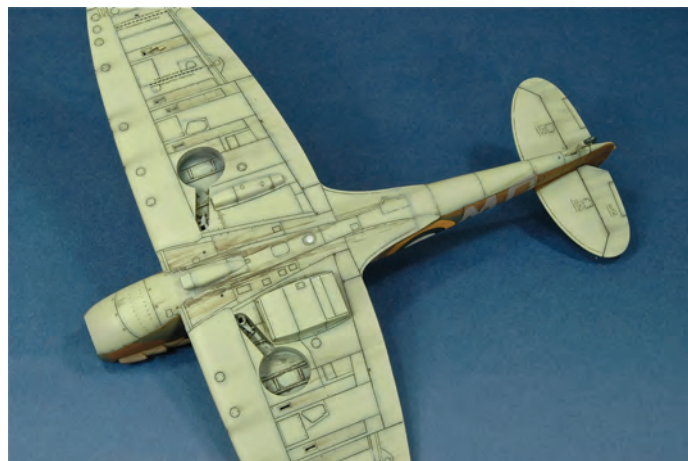
CANOPY AND SMALL DETAILS

The kit includes choices for the sliding canopy section, and I picked the earlier style with the flat

The model was given an overall matt finish using Vallejo Matt Medium thinned with tap water. Exhaust streaks and other stains were added by airbrushing thinned dark grey down the fuselage sides.



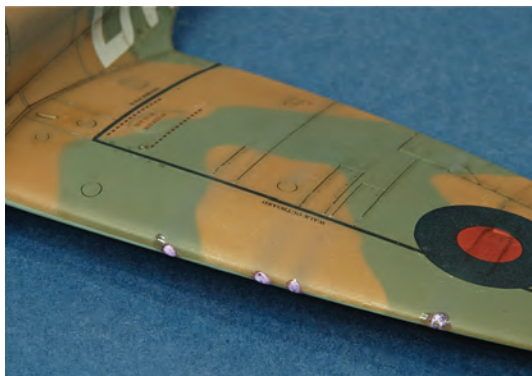
The lower fuselage was marked with streaks and stains concentrating aft of the engine cowlings since wartime photos showed this area to get extremely dirty.



The aircraft was given markings from 610 “County of Chester” squadron during the Battle of Britain 1940.

Right: Humbrol liquid mask was applied to the wing gun ports

Far right: After masking the wings, several coats of thick Vallejo acrylic paint were applied to the gun port areas.



"The classic shape of the Mk.I has been captured nicely by Tamiya, and the fit of the parts speaks highly of their engineering."



The end result emulated the appearance of recently fired guns through the protective tape covers used during the war.



Chipped paint was shown by adding small marks with silver enamel, toned down with raw umber oil paint.

sides and oval "punchout" section as seen in the famous wartime photo of this aircraft. The canopy sections were masked with small pieces of Tamiya tape, and painted separately before adding them to the model using 5-minute epoxy glue. The three aerial wires were added using invisible thread. Holes in the side of the fuselage and the tips of the elevator planes were drilled, and the thread was glued into place with cyano cement while being held tightly in place with "helping hands" equipped with copper soldering clips. The antennae were coloured by running a dark Sharpie ink marker over them.

The gun patches on the wings were made by dabbing liquid mask onto the gun ports in a random pattern. After masking off a roughly square area around the port, thick acrylic Vallejo paint

was applied to the ports using several layers of it. The paint was a mix of Cavalry Brown 932 and English Uniform Brown 921. After removing all of the masking, the gun ports looked as if they'd been recently fired and the thick paint resembled the ripped-open tape.

SUMMARY

One of the highlights of building a Spitfire model is the sheer pleasure of looking at the elegant lines of the aircraft's design. The classic shape of the Mk.I has been captured nicely by Tamiya, and the fit of the parts speaks highly of their engineering. Although I lost a bit of sleep over the decals, the model turned out to be a nice start to my collection of 1:48 scale Battle of Britain aircraft. •

MINI MODELSPEC

Tamiya 1:48 scale Supermarine Spitfire

Kit no. 61032

Paints and Weathering Products Used:

Tamiya acrylics
Vallejo acrylics
Humbrol enamels
Winsor & Newton oil paints

+ Excellent fit; high level of detail.

- Questionable colour callout for Dark Earth; thick decals prone to silvering.

Rating: 8 out of 10

Tamiya kits are distributed in the UK by The Hobby Company Limited www.hobbyco.net

GULL WING DEFENDER

Kamil Feliks Sztarbala adds some scratch built details to ToRo's 1:48 scale resin PZL P.7.



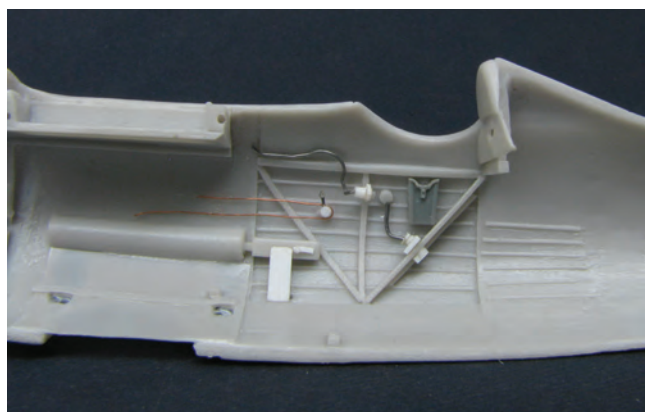
ToRo's PZL P.7 comes packed in a sturdy box.



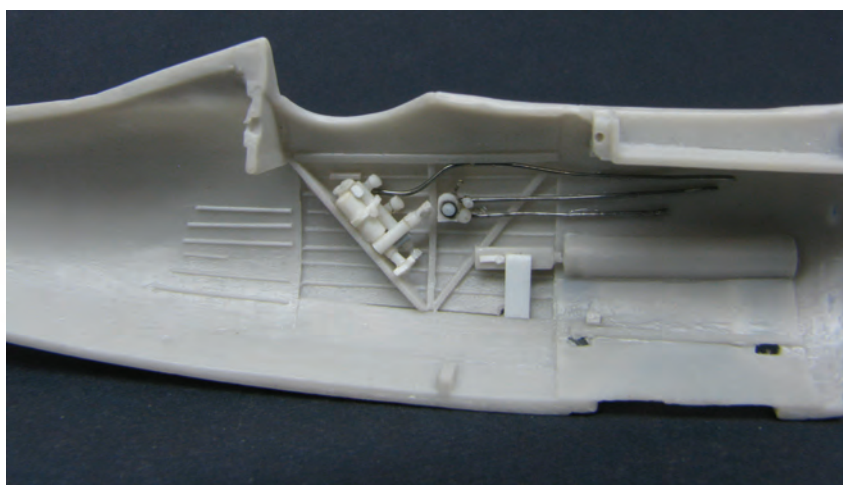
The kit comprises solely resin parts plus decals and instructions.



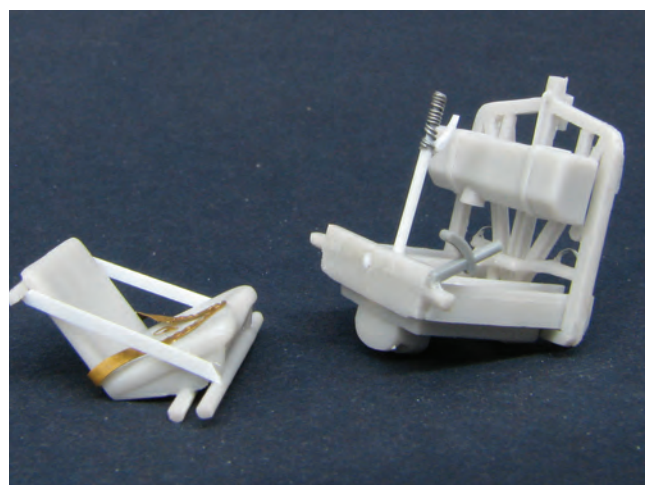
Push rod detail has been added to the resin engine using brass and steel rod.



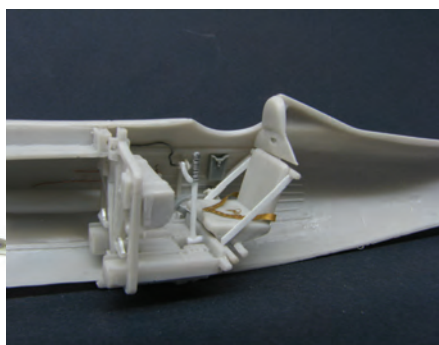
The kit does not supply some of the smaller detail parts, so these were added from scratch.



The cockpit sidewalls were fitted with a number of parts scratch built from plastic and wire.



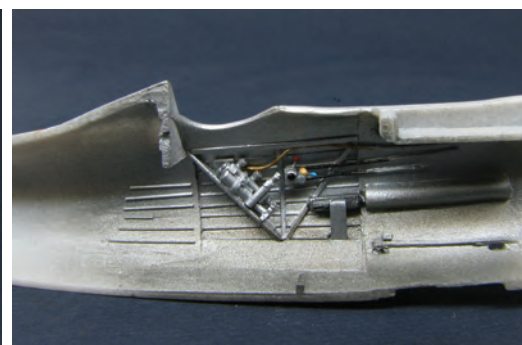
The simple plastic rod control column and the pilot's seat were enhanced too.



The extra effort is worthwhile in the open cockpit.



Interior parts were painted with a selection of Vallejo and Tamiya acrylics over a base of Gunze Silver lacquer.



The basic colours are in place here.

When it was developed in the early 1930s, the PZL P.7a was probably the best fighter plane in the world. 149 of these all-metal monoplanes with their distinctive gull wing entered Polish service in 1933, replacing the previously used Avia BH-33 and PWS-10 aircraft. Thereby the Polish Air Force became the first air force in the world that employed solely all-metal fighters. Despite being already obsolete in 1939, a few dozens of P.7s took part in the defence of the country during the German Invasion of Poland although, to be frank, without any spectacular results. Some of the planes were captured by the Germans and used in Luftwaffe training units. Fifteen P.7s were withdrawn to Romania and soon attached to the training units of the Romanian Air Force.

FIRST LOOK

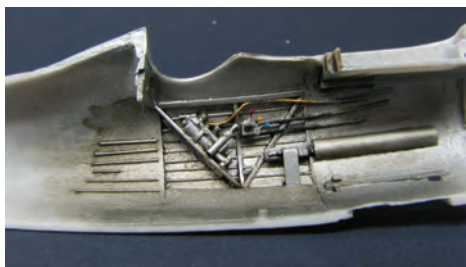
What's in the box? First of all, the bulk of the parts are cast in light-grey resin. There is also a piece of transparent film with a template for the canopy. We also get a big decal sheet printed by Techmod, which includes markings for four different planes: two Polish, one Romanian and one German. The painting guide contains simplified colour profiles with decal positions marked on them. A short story of the aircraft, part list and black and white pictures of the construction process with numbers of parts marked on are all included in the kit instructions.

Casting is just perfect, without any of the typical weaknesses of resin such as air bubbles or seams. Details are really impressive. The master kit's maker achieved a perfect result reproducing delicate ribbing on the wing surfaces, typical of Polish construction. However, some details of

the interior are omitted by the manufacturer or simplified like the plain styrene rod acting as the control stick. In fact, in addition to the resin parts, a small PE set with some more details (such as seat belts and the canopy frame) would have been a welcome addition. But since the kit is dedicated to advanced modellers, I'm pretty sure that they will scratch build all necessary updates without any problems.

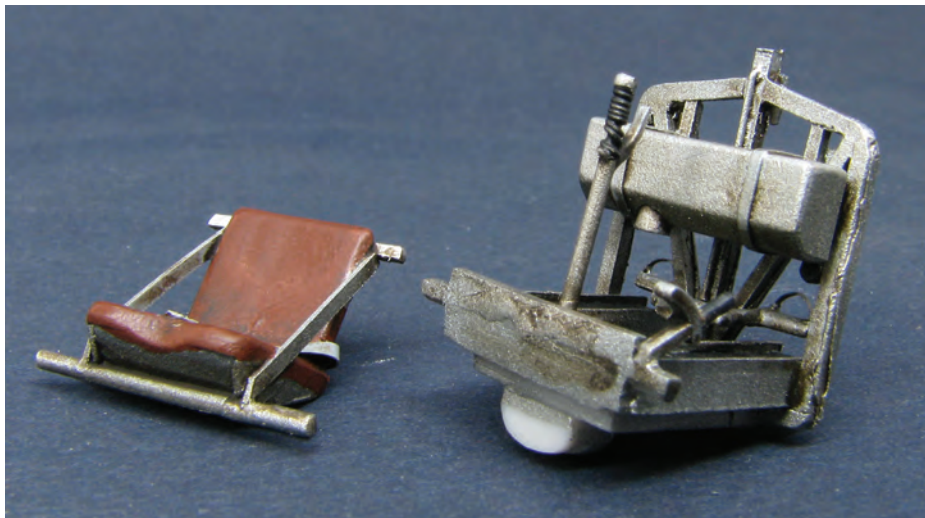
COCKPIT INTERIOR

Since I had no doubts about the good fit of the fuselage halves, I started to assembly the interior parts without any special preparations. As I mentioned earlier, some details are omitted, so I decided to scratch-build the Viet engine starter, some small levers and other details. I used different styrene profiles and thin tin wire for this purpose. ➤



A pin wash of AK-Interactive's Dark Wash added depth to the sidewalls.

The seat and floor/bulkhead assembly, painted and weathered. These just have to be trapped between the fuselage halves now.



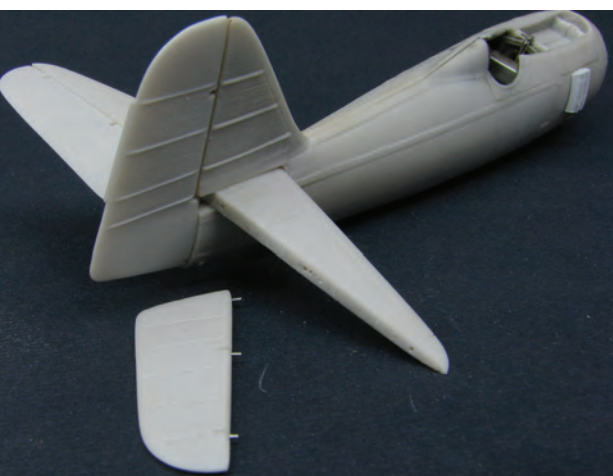
The fit of the fuselage halves was flawless.



The gun troughs on the sides of the fuselage were filled with Magic Sculpt epoxy putty.



The frame was built from photo-etch and 0.25 mm wire.



Far left: The join between the ailerons and the horizontal tailplanes was reinforced using thin steel wire.



Left: Tailplanes, rudder and the tail skid are all reinforced and fitted.



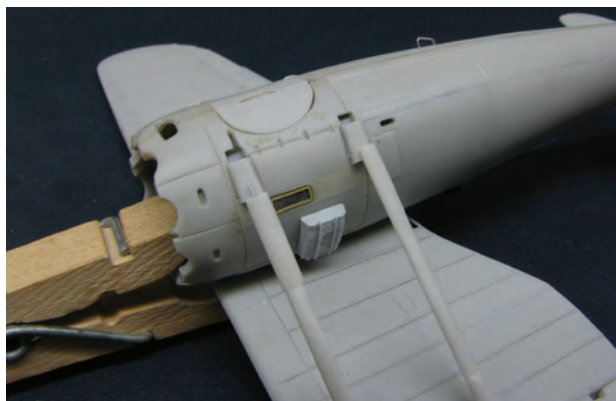
Far left: ToRo has reproducing delicate ribbing on the wing surfaces perfectly. This is typical of 1930s Polish aircraft construction.



Left: The shape of the wing struts was reworked slightly.



Left: They were also drilled and fitted with locating pins to allow the wing to be installed after painting.



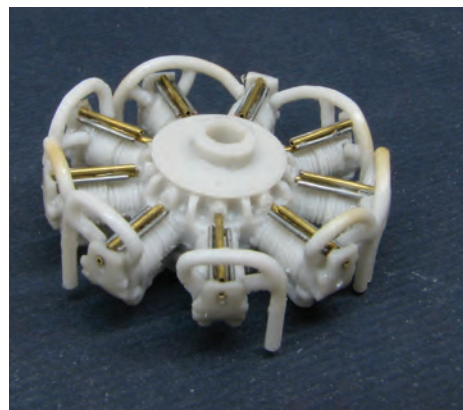
Far Left: Test fitting showed that the struts were actually a bit too long. Better to find out now than after painting!



The struts were cut to the correct length and a gun camera fairing, scratch built from plastic sheet, was glued in place.



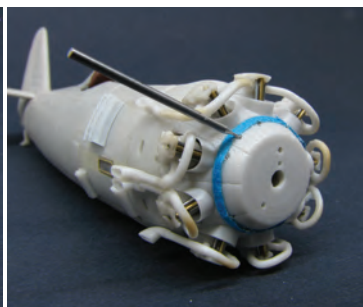
Now that is better!



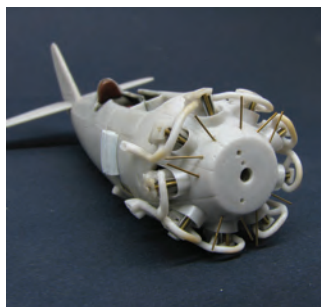
I started to work on the engine by sanding all of its cylinders from the outside. This was necessary to achieve a perfect circle.



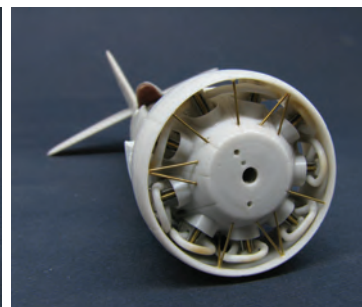
The engine and its cowl ring were temporarily fitted to the fuselage.



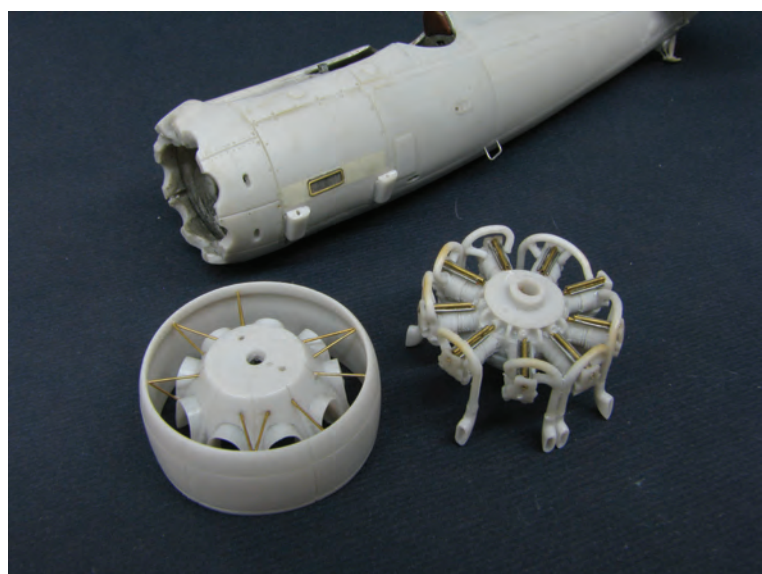
Holes were drilled into the forward part of the engine cowl, using a strip of masking tape to ensure the correct alignment.



Fine brass wire was glued into the row of holes.



The cowl mount has a big visual impact on the front of the model.

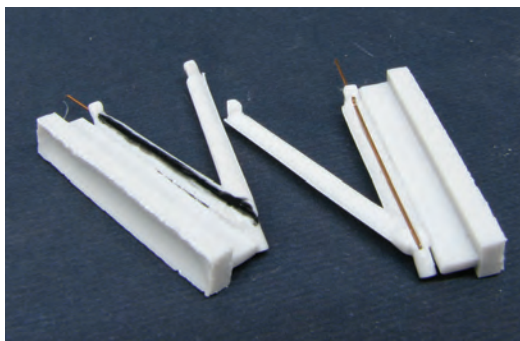


The engine and the cowl may now be removed in preparation for painting, after which they will be glued in place.

The landing gear legs have been reinforced by ToRo, but I wanted to make doubly sure that they would take the full weight of the model.

"As I chose a painting scheme different to those of offered by the manufacturer, I had to make a few minor modifications to the kit."





Slots were scribed into the landing gear legs, which were then filled with 0.5 mm brass wire.



The reinforced legs were super-glued to the fuselage.



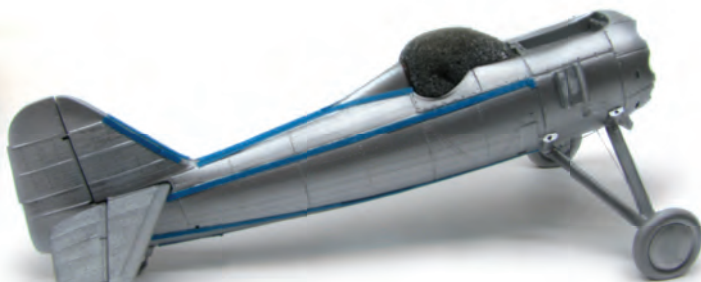
Suspension rigging made from steel wire added more strength to the assembly.



A jig can be handy to hold parts of a model during the painting process.



The model is ready for paint.



The model received a base coat of Mr. Color Silver lacquer. The engine was painted Mr. Metal Colour Dark Iron.

After finishing that stage, I coated the whole interior with Tamiya Flat Aluminium. Then I sprayed some shadows with Tamiya Smoke. In the next step I painted the details like the seat, levers and wiring, using Vallejo acrylics. The whole paintwork was then sprayed with a clear gloss coat. To emphasise the details, I added a slight 'pin-wash', using AK-interactive Dark Wash for Green Vehicles. When it had dried, I finished the whole interior with satin varnish.

FUSELAGE

Due to the excellent fit, closing the interior segments between the fuselage halves was fast and easy. A small amount of CA glue used as putty was enough to fill the joints.

As I chose a painting scheme different to those offered by the manufacturer, I had to make a few minor modifications to the kit. I started with gun troughs. The kit has them open, but in 'my' aircraft they had been covered and had a small shutter mounted over them. First, I filled the gun troughs with Magic Sculp epoxy putty. Next, I drilled a small hole for the shutters, which I made from a small photo-etched frame and 0.25 mm tin wire.

Now it was necessary to polish all the fuselage surfaces. I also treated the wing the same way. The small bulges, which appear around all rivets, had been almost invisible before this step, but could be

a bit troublesome during applying decals. When all surfaces were prepared, I could attach some details like oil cooler, rudder control cables and small footstep.

WING

The first step was to mount the ailerons to the wing. I reinforced the connection with thin steel wire to make it solid enough. I also added aileron pushers, scratch-built from styrene profiles.

Since I wanted to paint the fuselage and wing separately, I had to find a painless way of joining them together after finishing the paintwork. I decided to make some small pins, which would determine position of the struts. Therefore I drilled 0.5 mm holes in the underside of the wing.

It was also necessary to rework the wing struts a little due to the incorrect profile of their tips. These were the only parts of the kit, which forced me to use some putty - I employed black CA adhesive. Moreover, the struts had been a bit too long. I cut them to proper length and then drilled small holes for positioning pins in their tips.

Because I had chosen the painting scheme of a machine that participated in manoeuvres, I decided to add a small extra detail. I scratched a replica of gun camera from a piece of styrene sheet and mounted it on the wing strut.

ENGINE

I started to work on the engine by sanding all of its cylinders from the outside. This was necessary to achieve a perfect circle. Next I added pushrods made of brass tubes and wire. I didn't pay too much attention to fitting these details to the centre of the engine because in the end this section will be hidden under the cowl. On the other hand, I had to be careful while mounting the exhaust pipes, because each of them had to be bended into a proper shape to fit to the cylinders.

Now I had to temporarily fit the engine and its cowl ring in the fuselage. I did this for two reasons. First, I had to set the proper length of the exhaust tips. Second, I had to make the cowl ring rack, which is a distinctive feature of this plane. For this purpose, first I drilled holes in the forward part of the engine cowl, helping myself with a stripe of masking tape to be sure the holes will be in the same line. Then I put thin brass wires in the holes and after putting them forward to proper length, I was able to join two resin parts of the cowl ring.

GEAR

The manufacturer ensures that the landing gear legs will be strong by casting them in special strong resin that should withstand the weight of the kit. I don't believe in Santa Claus though, so I decided to strengthen them further.



Next, some of the panel lines were pre-shaded in black and green.



Lower surfaces were all painted in Mr Colour 117, RLM 76 Light Blue.



The upper surface colour was a complex combination, starting with a very light coat of Mr Colour 126 Mitsubishi Cockpit Green.



Next, I airbrushed another thin layer of Dark Earth, followed by a lightened shade of the same colour.



A careful coat of Tamiya Smoke darkened and glossed the surface ready for decals.



The Polish checkerboard decals came from a Techmod sheet and they weren't easy to apply. I used a handmade template for the digits '9', while the unit emblems were hand-painted with a brush and Vallejo acrylics.



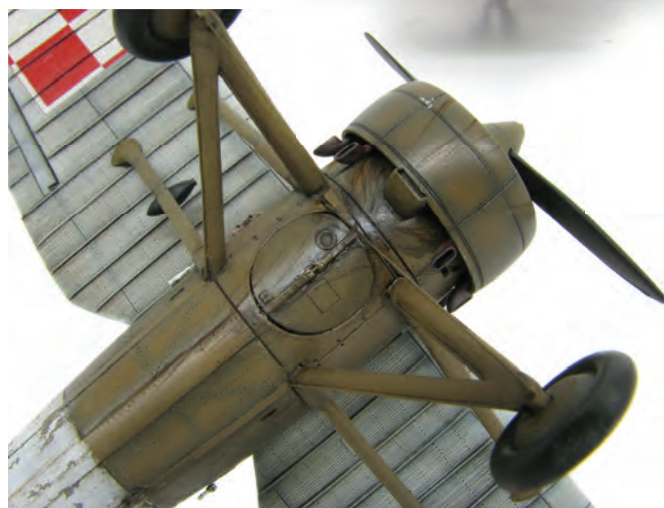
Lifecolor matt white was used to represent the temporary exercise markings.



These temporary markings were partially chipped away using the hairspray method.



Another layer of gloss coat was necessary to protect the painted surfaces, especially against the oil wash.



AK-interactive Dark Wash was used to emphasise the details, panel lines and rivets.

I scribed slots in both landing gear legs, filled them with 0.5 mm brass wires, and poured CA adhesive over them. Later, I glued the landing gear to the fuselage, again reinforcing the joints with plenty of CA. I made the suspension rigging of steel wires to additionally strengthen the landing gear.

PAINING

As the PZL P.7 was an all-metal aircraft, I began with coating nearly the whole model with Mr. Color Silver lacquer. Only the engine was airbrushed Mr. Metal Colour Dark Iron. Then I pre-shaded some of the panel lines in black and green. My next step was to paint the undersurfaces of the wing and horizontal stabilizers in RLM 76 Light Blue. I also added some lighter streaks of heavily thinned white paint there.

Painting of the upper surfaces was somewhat complicated. Many Polish aviation aficionados have different opinions about the appearance of the Polish Khaki. Some of them suggest using RAF Dark Earth as an equivalent, but I found its shade a bit too pale. Therefore I had to start with light application of green base. Next, I airbrushed another thin layer of Dark Earth. Then I added brightened Dark Earth to create some streaks and highlights. As I was still dissatisfied with the effect, I

decided to spray the paintwork with Tamiya Smoke. Now the surface was slightly darkened and glossy - ready for the decals.

MARKINGS

The Polish checkerboard decals came from Techmod sheet and they weren't easy to apply. I had to do some retouching with a brush as the decals had broken on the wing ribs. The remaining markings had to be painted. I used a handmade template for the digits '9', while the unit emblems were hand-painted with a brush and Vallejo acrylics.

I applied a clear gloss coat to the model. Afterwards, I sprayed the rear fuselage with hairspray. Once it dried, I chose Lifecolor matt white to represent the temporary exercise markings. I left it to dry a while and then I scrubbed some of the white layer away with a coarse brush dampened with water. Another layer of gloss coat was necessary to protect the painted surfaces, especially against the oil wash. To emphasise the details, panel lines and rivets I used AK-interactive Dark Wash. I also modified the surface of white temporary markings, gently rubbing white oil paint into some small areas.

FINAL ASSEMBLY

The next step was fitting the engine cowling, followed by mounting the wing to the fuselage, having previously joined it with the instrument panel. Now I could add the wing struts and some cockpit details like control stick, engine starter lever and seat belts. I then coated the kit with clear satin.

The final touch was to make the windscreen from a properly cut clear film stuck with stripes of masking tape painted in the camouflage colour, which imitate the frames.

WEATHERING

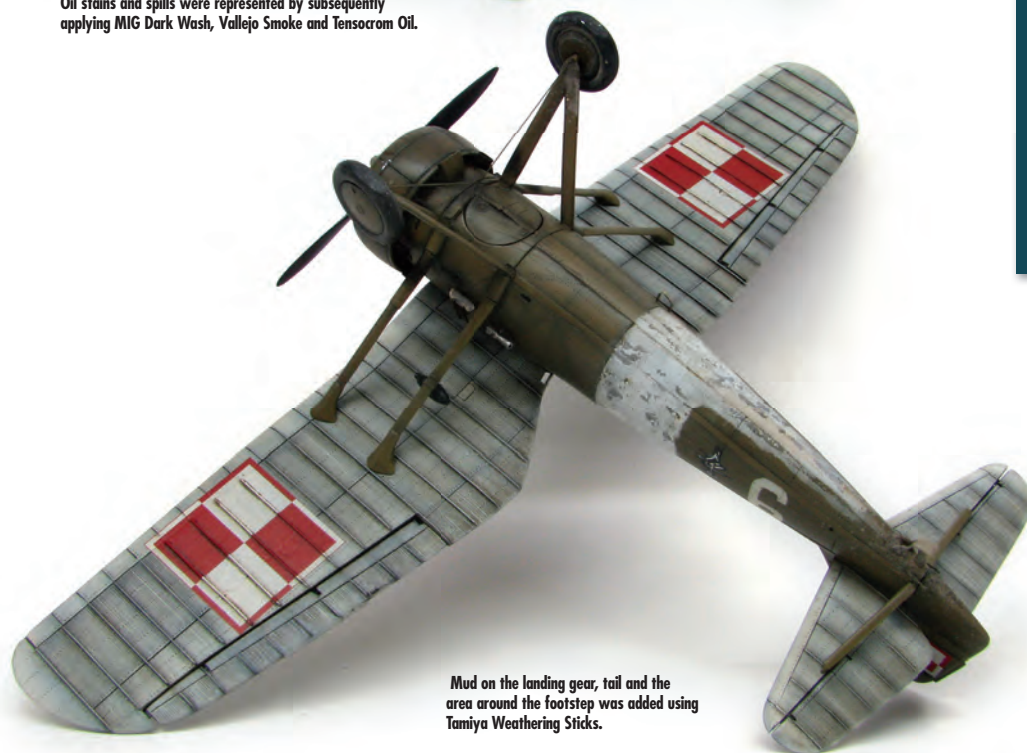
For the weathering, I started with a few paint chips. I scrubbed the camouflage paints' layers with knife's edge to expose the silver base. Secondly, I simulated oil stains and spills, subsequently applying MIG Dark Wash, Vallejo Smoke and Tensocrom Oil.

Afterwards I depicted some mud on the landing gear, tail and the area around the footstep, using Tamiya Weathering Sticks as usual. I applied them with a brush and old toothbrush, both dampened with water.

The last step was to apply a small amount of black pigment in the exhausts areas. •



Oil stains and spills were represented by subsequently applying MIG Dark Wash, Vallejo Smoke and Tensocrom Oil.



Mud on the landing gear, tail and the area around the footstep was added using Tamiya Weathering Sticks.



This is a great kit, although it is best suited to advanced modellers.

MODELSPEC

ToRo Model 1:48 scale Polish Fighter Plane PZL P.7. Kit No. 48S01

Tools and Accessories Used:

Styrene profiles (Evergreen and Plastruct)
Tin, steel and brass wire
ORAMASK Masking foil
Mr.Colour paints
Vallejo Model Colour acrylics
Dark Wash AK-Interactive
Tamiya Weathering Sticks
Black Smoke pigment MIG

+ Excellent casting; perfect fit

- Some scratch building required.

Rating: 8.5 out of 10

Available online from Adalbertus
Website www.adalbertus.com.pl

“Casting is just perfect, without any of the typical weaknesses of resin such as air bubbles or seams.”

MANCHURIAN FLIGHT OF FANCY

Newcomer Meng from China releases a high quality "IJA '46" subject in 1:72 scale – the Mansyu Ki-98. The Editor examines this unusual pusher aircraft.



The Ki-98 was a proposal by the Manchurian-based Mansyu company for a single-engine twin boom pusher aircraft in the ground attack role.

Development of the type began in 1943, but work had only commenced on a single prototype by war's end. The incomplete prototype was destroyed by Japanese forces at the end of the war, along with drawings and documentation.

The Ki-98 would have been armed with two 20 mm and one 37 mm cannon. The engine was intended to be the 2,200 horsepower Mitsubishi Ha-211 Ru radial, delivering a top speed of more than 700 km/h.

The fuselage was based on the successful Japanese Shinden fighter, while the twin-boom layout was intended to offer similar aerodynamics to the P-38 Lightning. Indeed, the Lightning-esque shape of the vertical tail surfaces and rudder is unmistakable.

We have seen plenty of Luftwaffe '46 designs brought to life as plastic models, but Japanese "paper projects" are not as common.

Meng is a new company from China that produces both military vehicles and aircraft models. This is actually Meng's second oddball Japanese release, following its 1:72 scale Kayaba ramjet fighter earlier this year.

Meng's 1:72 scale Mansyu Ki-98 comprises just 47 parts in grey plastic and two parts in clear; with decals for three hypothetical options. Moulding quality is excellent, with no flash and the small number of ejector pin marks generally placed where they will not be evident on the finished model.

The plastic is smooth; panel lines consistent, crisp and quite fine (not as petite as Tamiya, for example, but definitely sharper than Airfix); and sprue attachment points relatively slender.

Despite the small number of parts, detail is pretty good. The cockpit features a tub with side consoles and a couple of bumps representing rudder pedals, a seat (no harness), instrument panel with raised bezels, and a control column.

Undercarriage legs are one piece each, with oleo scissors moulded in place. The forward and main

landing gear bays are all boxed in.

Not surprisingly, control surfaces are moulded with the wings and tail planes in neutral positions. Trailing edges are realistically sharp. The wings are broken down into a single lower centre section (that should correctly set the dihedral), two upper outer sections with the lower parts of the ailerons and outer flaps moulded in place (this helps with the sharp trailing edges), and one outer lower wing insert for each side.

Vents at the front and back of the pod are moulded solid, but they should look suitably realistic after a simple black wash.

The canopy and gunsight are supplied as clear parts. The main canopy and windscreen are moulded as a single part, so you'll need to carefully take to the plastic with a razor saw if you want to display the cockpit.

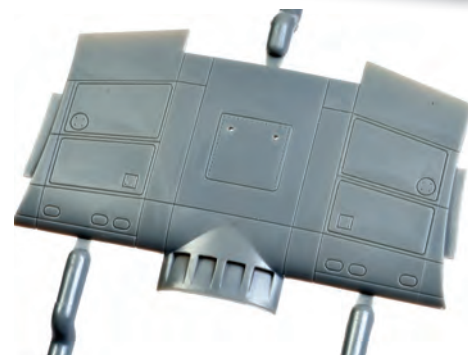
The instructions are laid out over 12 steps and ten fold-out pages. Assembly directions are quite clear, using exploded view drawings and a small amount of text.

As the real aircraft never flew, you can suit yourself as to camouflage and markings. Meng has included three options on their decal sheet as a starting point, all from the end of 1945:

- Imperial Japanese Army with upper surfaces in Nakajima Green, lower surfaces in bare metal, and wing bandages for the Hinomaru.
- Manchukuo Air Force. Overall bare metal with yellow spinner.
- Royal Thai Air Force. Green disruptive mottle over Dark Yellow on the upper surfaces, IJA Grey Green below.

Meng's 1:72 scale Mansyu Ki-98 is a high quality model with a decent level of detail and very good surface features. The unusual subject matter will relieve the modeller from the onerous burden of accuracy too. Building this kit should be a very enjoyable flight of fancy.

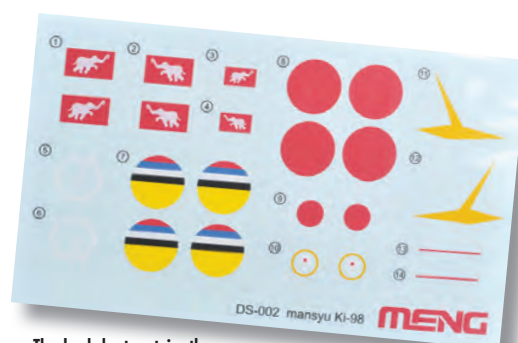
Thanks to Meng for the sample www.meng-model.com



The lower wing centre section will set the dihedral for the outer panels.



The fuselage pod.



The decal sheet contains three hypothetical marking options.

TWO-HOLE FLANKER



Eduard adds its resin, photo-etched and decal magic to Academy's big 1:48 scale Su-27UB Flanker two-seater. Mick Evans is impressed.

Eduard continues with its 1:48 scale re-boxing of other manufacturers' kits with upgraded parts. This time they have focussed on the Academy Su-27UB two-seat Flanker C. The original Academy kit was very nice but most builders complained about the simplified cockpit, exhaust nozzles and the shape of the radome. In the past, most of these issues could have been addressed through replacement with expensive aftermarket items.

Eduard has gone a long way to improving the kit with the inclusion of some really nice detail such as:

- Completely new resin cockpit tubs with colour photo-etched details
- Detailed resin K-36D ejection seats with photo etch details
- Resin nose wheel FOD guard
- Resin Pilots helmets
- Photo etched parts in colour and nickel
- Front and rear instrument panels
- Front instrument shroud
- HUD frames
- Cockpit sill
- Details for the wheel wells
- Intake FOD guards
- Auxiliary intake louvers
- IFF and RSNB antennas
- Details for the landing gear struts
- Canopy details and mirrors
- Paint masks for the canopy and wheels

This kit contains all the standard parts that are included in the Academy kit and these are moulded in the typical blue grey styrene that Academy chose to mould the Flanker kits in. For me, the ultimate upgrade would have been to replace the engine exhaust nozzles with more accurate resin and replace the radome as well but both of these are available separately in the aftermarket arena.

The photo-etched frets go a long way to add some extra detail to the undercarriage and wheel wells and the inclusion of the resin FOD guard to the nose landing gear is a massive improvement over the original Academy supplied part. Photo etched scissor links are provided to replace the solid links provided in the original kit, and hydraulic brake lines and bracing are also supplied to improve the landing gear.

The wheels, whilst reasonably moulded, may be replaced by purchasing the beautifully cast and detailed replacement wheels from Eduard's Brassin range. The exhausts do get a bit of a work over with the inclusion of photo etched afterburner flame holders but the nozzles themselves are oversimplified in detail with the Flanker having a very



The plastic parts are from the Academy kit.

intricate nozzle assembly.

The original weapons supplied by Academy are reasonable but have very thick fins, fortunately these can be replaced by purchasing the beautifully cast and detailed R-27 Alamo missiles from Eduard Brassin range although I am not sure that the two seat training aircraft would have Alamo missiles regularly fitted.

Eduard provides markings for four very colourful aircraft:

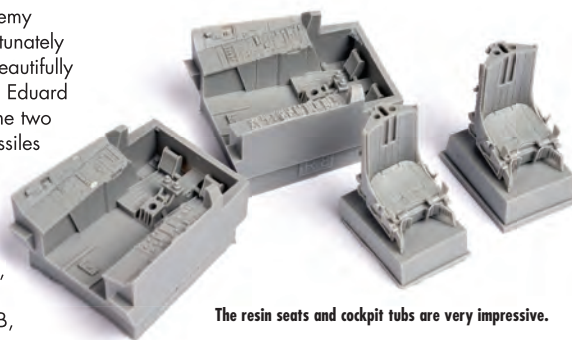
- Su-27UBM1, Bort 53, Taldykorgan AB, Kazakhstan AF
- Su-27UB, Bort 20, Novyfyodorovka AB, Russian Navy
- Su-27UB, Bort 609, 6 FS, Asmara AB, Eritrean AF
- Su-27UB, Bort 74, 831 Tactical Air Bde, Mirgorod AB, Ukrainian AF

Eduard has provided complete markings for each aircraft as well as a complete set of data stencil for the airframe, pylons, and weapons.

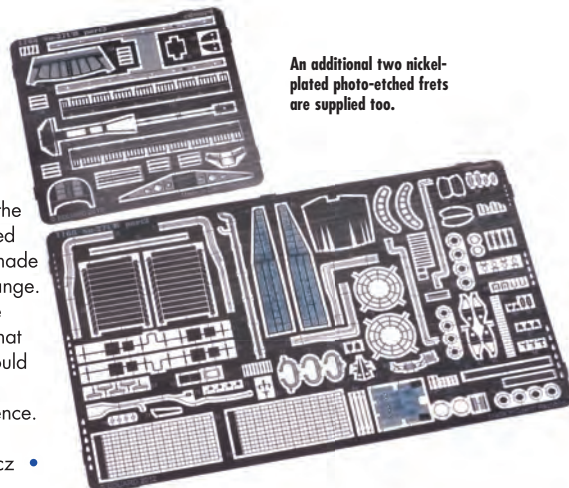
Eduard has gone a long way to improving the Academy Flanker with the extra resin and etched metal details and further improvement can be made using some of the products from their Brassin range. The kit should make up to represent a very nice two seat Flanker and with the colour schemes that Eduard has provided the completed subject should be very colourful indeed.

Suitable for modellers with moderate experience.

Thanks to Eduard for the sample www.eduard.cz •



The resin seats and cockpit tubs are very impressive.



An additional two nickel-plated photo-etched frets are supplied too.

STALIN'S ARROW

Part Two – Building and
Painting the Second Test Shot



This time, the Editor builds and paints his second test shot of Tamiya's all-new 1:48 scale Il-2 Shturmovik.

In Issue 15 of Military Illustrated Modeller, I built a test shot of Tamiya's 1:48 scale Ilyushin Il-2 Shturmovik straight from the sprues and without paint, and also compared the new Tamiya kit with the 1990s vintage Il-2m3.

Looking at the plain grey plastic model on my workbench, I couldn't help but wonder what it would look like painted. However, with the canopy glued in place and much of the cockpit detail buried deep inside the fuselage, it was not really a practical proposition to take to this finished kit with the airbrush.

Fortunately, Tamiya had kindly sent two sets of sprues. The logical solution was to build the second test shot too, but this time paint it as I went.

ALMOST THE WHOLE KIT

At the time I built the model, I had all the plastic parts and an early partial version of the instructions, but a few other items that would be in the final kit were not yet ready. These included the decal sheet and the self-adhesive canopy masks. This meant that I had to deviate from the instructions in a couple of minor ways.

Construction generally followed the sequence that I took when building the first test shot. For

details, you can see the previous article in Issue 15. In this instalment, I will focus on the differences between my first build and this one.

Tamiya's decal sheet includes harness straps and instrument dials.

In the absence of the kit decal sheet, I decided to use the Good Stuff resin seat, which has a backrest cushion and harness straps cast in place. The seat was designed for a 1:48 scale LaGG-3, but it is also suitable for a range of Soviet aircraft including the Il-2. It is an excellent product originally mastered by Mike Good and perfectly cast, but it is sadly out of production at this time.

I also used Aeroscale instrument decals to fill in for the absent Tamiya decal dials.

With the exception of these two substitutes, the model was built straight from the sprues (it would have been straight from the box, but I didn't have one yet!).

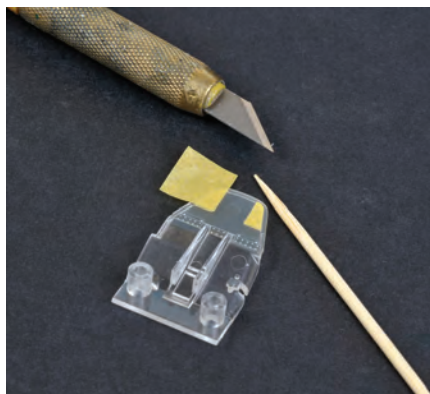
INTERIOR SHADES

The partial instructions did not have colour callouts yet, so I did a bit of research online. I found some colour photos of an apparently unrestored Il-2 cockpit that was painted a shade of light blue not unlike the Luftwaffe's RLM 65. Others seemed to be ➤

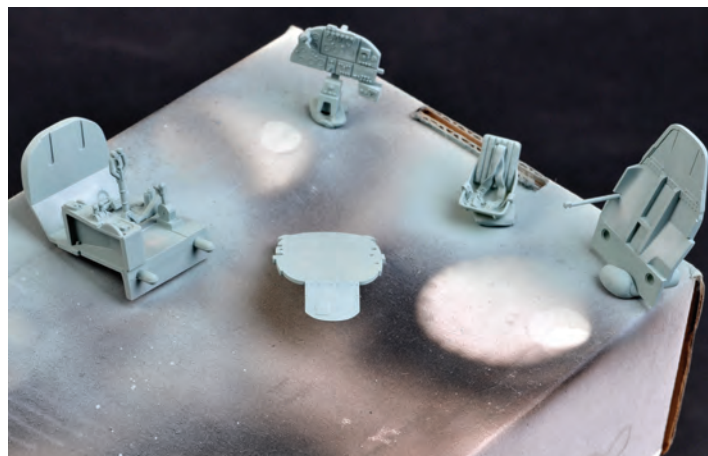




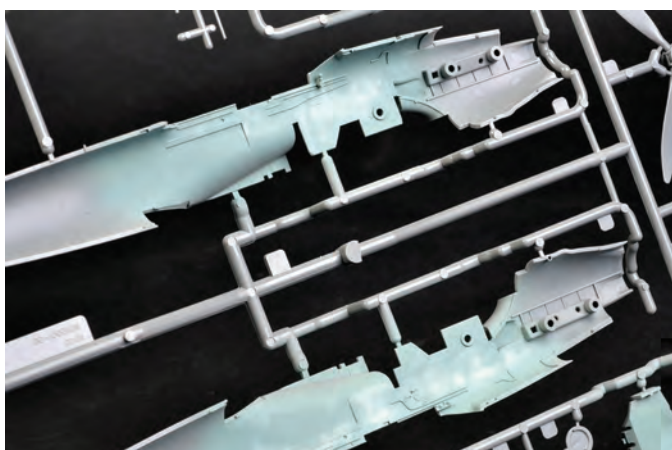
In the absence of Tamiya's decal harness straps, I used Good Stuff's 1:48 scale resin seat. This is nominally designed for a LaGG-3, but it is also suitable for the Il-2 and a number of other Soviet WWII aircraft.



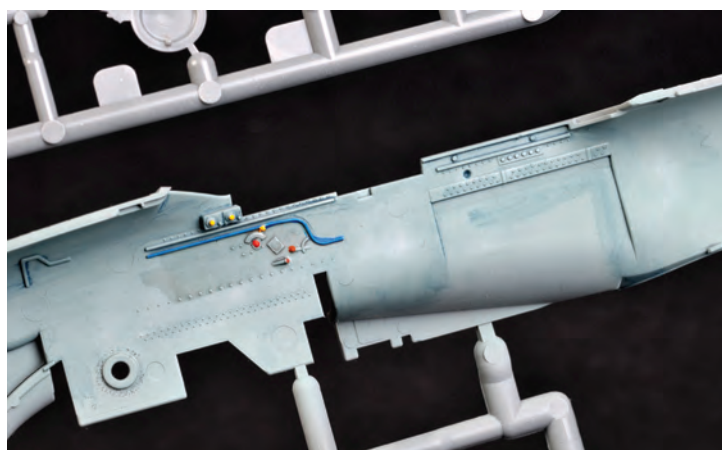
Even before assembling the cockpit, the first task was to mask off both sides of the armoured glass on the rear pilot's bulkhead. Note that the tip of a toothpick is being used to burnish the tape snugly against the raised panel line before it is cut to shape. This provides a more positive cutting line.



The cockpit parts were painted Tamiya XF-23 Light Blue, and mottled with a paler shade.



A number of the important parts, including the interior of the fuselage halves, were painted while they were still on the sprues.



This makes handling much easier. Once again, the solid light blue colour was broken up with irregular patches of a paler shade.



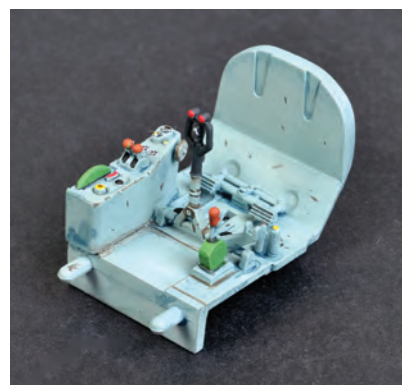
Details were picked out using Vallejo acrylics.



The entire mid-fuselage fuel tank was sprayed with Tamiya AS-12 Bare Metal Silver straight from the can. The circumferential straps were masked with thinly cut strips or Tamiya tape.



In the absence of painting instructions, I painted the fuel tank Gunze H70 RLM 02 Grey. I was wrong – it should be flat black! Weathering was intentionally exaggerated, as the tank would be under the canopy, sandwiched between two bulkheads and almost hidden from view.



Reference photos suggested that some of the consoles and controls were quite brightly painted.

finished in a shade very similar to RLM 02 Grey. The blue looked to be the more interesting option, so I sprayed all the cockpit parts in a base coat of Tamiya XF-23 Light Blue.

The broad expanse of blue was broken up with some mottles and streaks in a paler shade of the base colour mixed with around 10% XF-2 Flat White. Quadrants, switches, dials and other small details were picked out with Vallejo acrylics applied with a fine brush. The only parts not painted at this stage were the silver elements in the cockpit. These were left until after the other cockpit parts had been given a flat coat, so as not to dull the metallic sheen of this colour.

The individual Aeroscale decals were applied to the instrument dials without any problems. A few placard decals from Aeroscale were also added for

a bit of variety.

The seat cushion was painted Vallejo Panzer Aces 337 Highlight German (Black), followed by a highlighting coat of Vallejo Model Color 826 German Cam. Medium Brown on the raised sections. The harness straps were painted Model Color 847 Dark Sand.

I took a punt on the colour of the fuselage fuel tank, located between the front and rear cockpits. My guess was the grey-green shade, but I was wrong. This should actually be painted black to represent self-sealing material. At least I got the bare metal straps right; and it is hard to see under the canopy and between the bulkheads!

Most of the other interior parts – essentially the wheel wells, undercarriage gear and doors – were sprayed in the grey-green colour using

Gunze-Sangyo H70 RLM 02 before they were cut from the sprues. They were weathered too, using a thin wash of Winsor & Newton Lamp Black and Raw Umber.

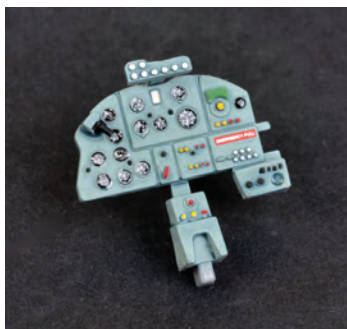
The balance of construction proceeded as smoothly as the first test shot.

I only made one modification to the construction sequence.

DELAYING THE LANDING

The instructions would have you fit the landing gear and the cap at the front of the main undercarriage bay (on the leading edge of the wing) after the wing has been glued to the fuselage.

I was concerned that the landing gear legs would be exposed and very vulnerable while I was waving the model around during painting, so



Airscale decals were used for the dials, as I did not have the Tamiya decal sheet when I was building my model.



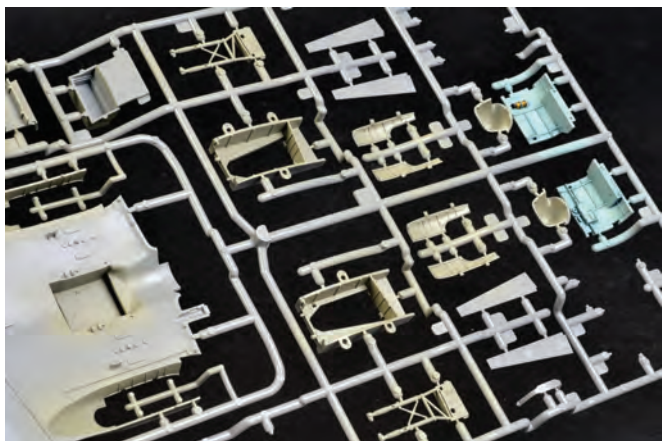
The Right Stuff seat test fitted with the rear bulkhead. The weathering process is underway for both the seat and the bulkhead.



The forward bulkhead of the gunner's cockpit. The chipping is simply Vallejo acrylic no. 150, German Camo Black Brown applied with the tip of a fine brush.

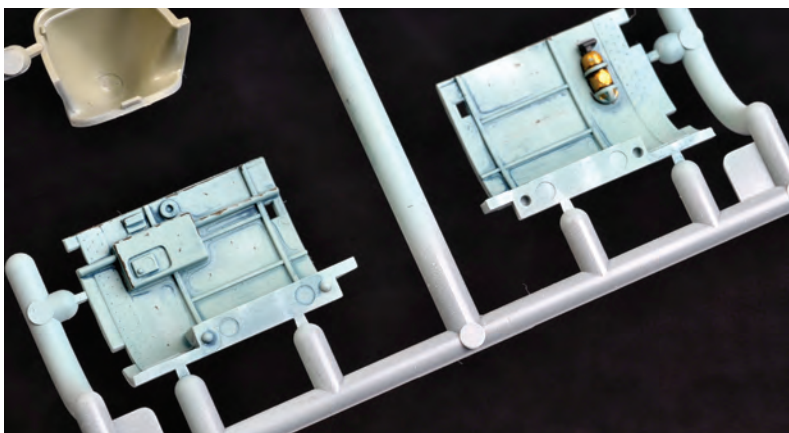


The instrument panel is fitted to the main front cockpit tub.

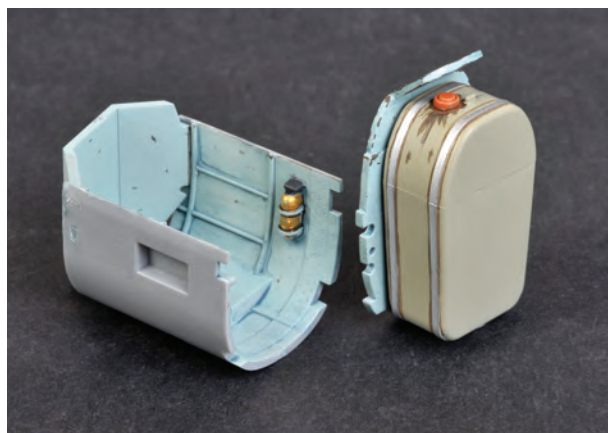


The undercarriage and rear cockpit parts were almost entirely painted before the parts were cut from the sprue.

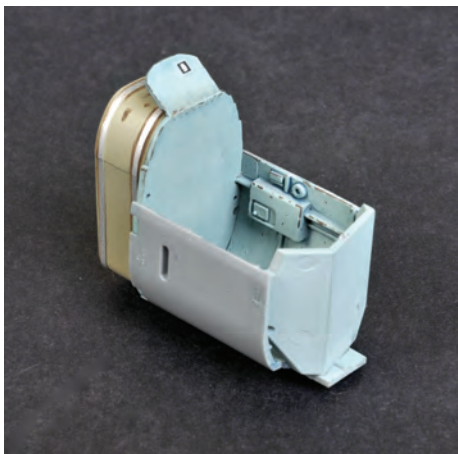
"Realising by now that my paint job was bearing the full brunt of Mr Murphy's ire, I tried to take a philosophical approach and calmly sanded back the damaged paintwork."



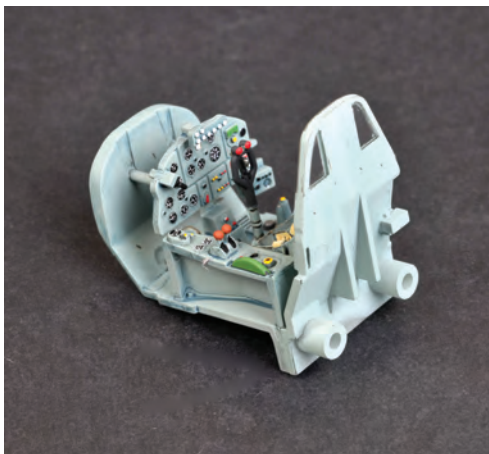
The same painting and weathering techniques are used for the rear cockpit. The fire extinguisher was painted using Vallejo acrylic Brass.



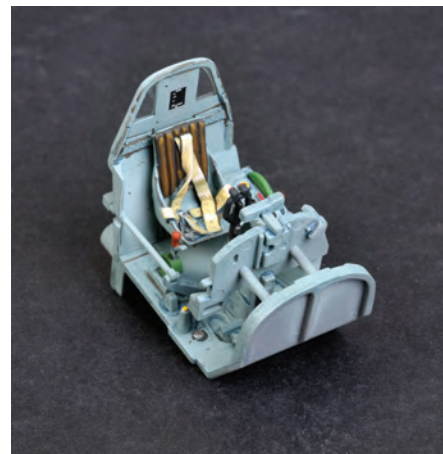
The rear cockpit tub and the fuselage fuel tank sub-assemblies ready to be fitted.



The forward bulkhead in the rear cockpit was weathered with mottling and chipping too.



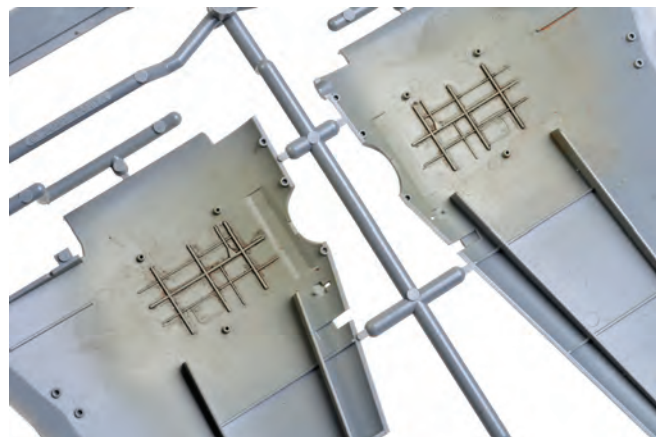
The forward cockpit builds up easily into its own sub-assembly.



The Good Stuff resin seat looks right at home in the Tamiya tub.



Left: An Irwin clamp was used to ensure that the short wing spar was pressed firmly on the bottom centre section of the wing while the cement dried. This will help the outer wing and fuselage parts line up perfectly in the following construction steps.



The wheel wells and other interior parts received a wash of heavily thinned Lamp Black and Raw Umber oil paints from Winsor & Newton.

◀ I thought that I would delay the installation of the undercarriage until after most of the model had been painted. The fit was so good that I thought I could paint the caps separately, then fit the painted landing gear to the fully painted model and glue the caps to the front of the landing gear with only minimal touching-up required.

The undercarriage bay was therefore masked off with Tamiya tape.

I also decided to cleanly cut off the plastic cannon barrels and the rudder mass balance, with the intention of gluing them back on when painting was complete.

As I was too early for the kit's pre-printed canopy masks, I cut masks for the windscreen and canopy from Tamiya 10 mm tape.

The long cockpit opening was covered with the unused closed canopy part. Not surprisingly, this fitted perfectly over the cockpit, and just need the open rear plugged with Tamiya tape and a section snipped from the edge of a Post-It Note.

The lower surfaces of the model were sprayed with a blue shade mixed from Tamiya XF-23 Light Blue and a few spots of XF-8 Flat Blue for a slightly more intense effect. This base colour was then mottled with a paler version of the colour, which was simply achieved by adding around 10% Tamiya XF-2 Flat White. The blue lower surfaces were now masked off using various widths of Tamiya tape.

THE BEST LAID PLANS

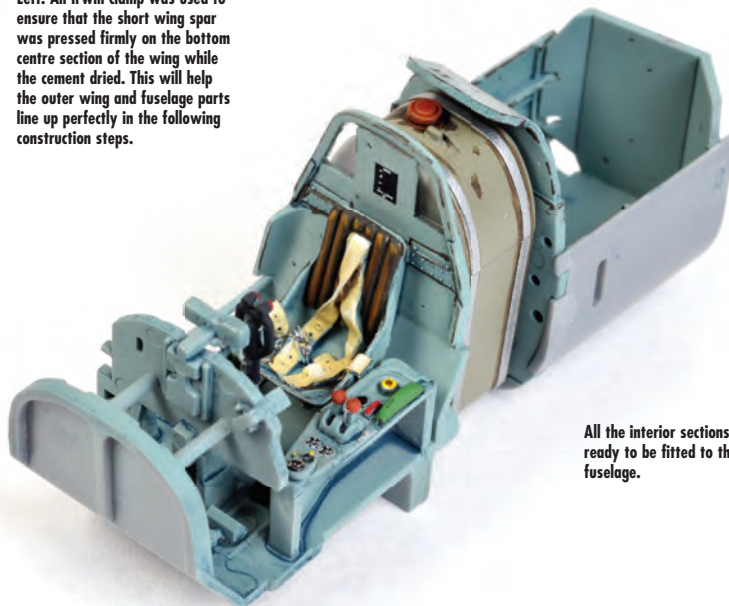
I was so well organised. Or at least I thought I was.

I enlarged profile and plan drawings to 1:48 scale so that I could cut some very precise camouflage masks. The fuselage camouflage pattern was sourced from Authentic Decals instructions, but their upper surface plans were very small so I decided to use the Tamiya marking guide for the wings.

It usually takes a while to size, print, cut out and apply camouflage masks. However, this investment is worthwhile as the painting itself is very fast once the masks are in place.

Before the first mask was added, though, I had to paint the base colour for the upper surface.

Recent research suggests that the brown used on some Il-2 Shturmoviks may have been a pale tan shade rather than the rich reddish brown that is most often seen on VVS models. I looked for a colour that might represent this tan, and came up with Gunze-Sangyo's H404 Khaki Brown – actually ▶



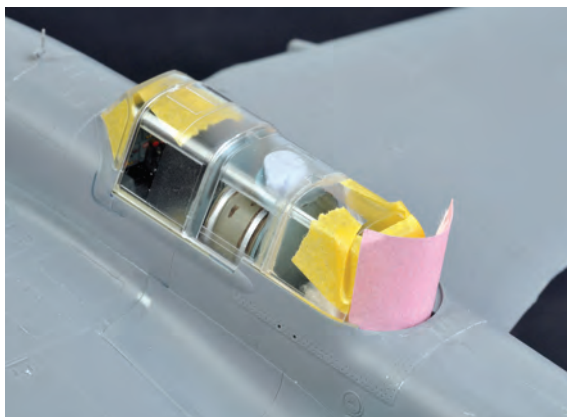
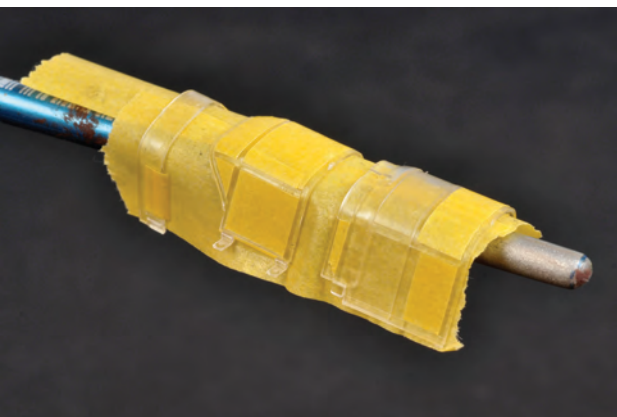
All the interior sections ready to be fitted to the fuselage.



With basic construction almost complete, the masking could commence. This started with blocking off the main wheel wells with Tamiya tape.

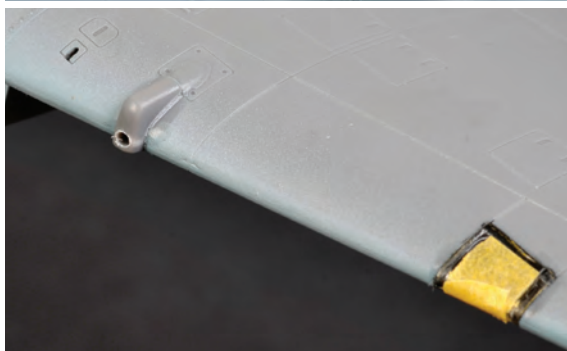
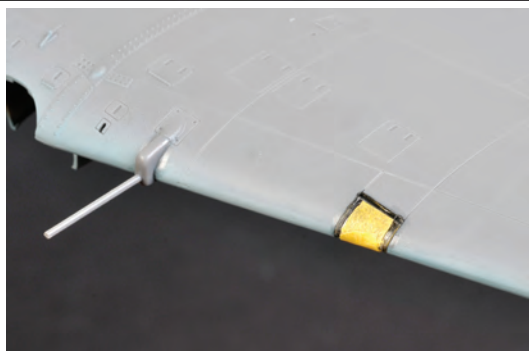


In the absence of Tamiya's printed masking sheet, I cut my own windscreen masks from Tamiya tape.



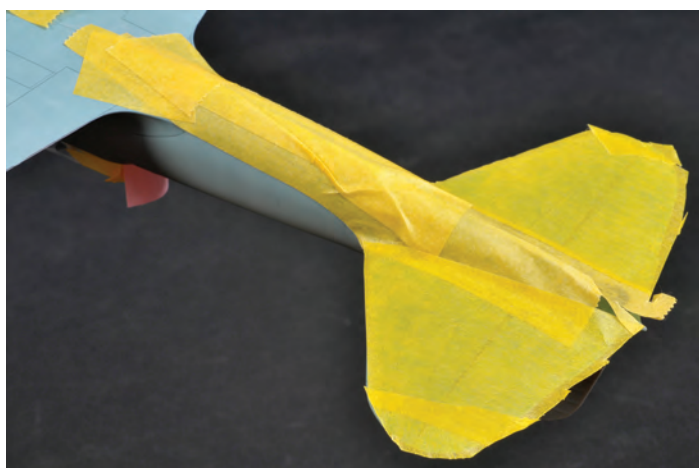
Far left: The masks for the fixed, sliding and hinged sections of the canopy were also cut from Tamiya tape using a sharp Olfa art knife. The inside of the canopy was masked with a wide section of Tamiya tape too. This avoids the risk of overspray. The canopy sections were temporarily attached to a paint brush handle using Blu-Tack to ease the painting process.

Left: The spare full-length closed canopy section was employed as a mask for the cockpit opening. The back was blanked off with Tamiya tape and a section cut from a Post-It Note.



Far left: The gun barrels and rudder mass balance looked prone to damage...

Left: ...so I cut them off cleanly with a sharp knife prior to painting the model.



The bottom of the model was sprayed with a mixed light blue shade, and mottled with a paler version before the lower surfaces were masked off.

Don't be stingy with the Tamiya tape! Note that neither the main landing gear nor the caps in front of the undercarriage bay have been fitted yet.



The base tan shade here is Gunze-Sangyo's H404 Khaki Brown – actually a German armour colour.

Right: The side views from Authentic Decals' instructions, and the top view from Tamiya's kit marking guide, were scaled up to 1:48 and printed.





Camouflage masks were cut from these scale plans. The masks were attached to the surface of the model using small blobs of Blu Tack, and anchored at front and rear with Tamiya masking tape.



It is easy to line up the camouflage masks using the printed structural detail as a guide. Dark Green will be sprayed on the wings and tailplanes after this first round of masking.



Dark Green and Dark Grey have both been sprayed. So far, so good. However, something strange was going on. The fuselage pattern did not seem to line up with the camouflage on the wings.



Disaster! The pattern is okay, but the colours are in the wrong place! The Tan and Dark Green are transposed. This was entirely my own fault. The pre-production kit instructions did not yet have colour callouts, and I did not research carefully enough.

◀ a German armour colour, but that would also serve my purposes. I was very pleased with the way the colour looked on the upper surfaces of the model.

Now it was time to reap the benefits of all the planning and work that had gone into the paper camouflage masks.

The first set of masks were applied and the green colour – Tamiya XF-67 NATO Green – was sprayed on the wings using my Iwata HP-CH airbrush. I took care to spray thin coats to avoid any build-up of paint at the demarcation lines, and to maintain a very slightly feathered edge between the colours.

Tamiya XF-63 German Grey was sprayed next.

I knew that something was wrong when I tried to attach the fuselage masks. They did not seem to line up with the pattern on the wings. I lifted the masks from the wings and with dawning horror realised that the tan and the green were transposed. Disaster!

This was entirely my own fault. The pre-production kit instructions did not yet have colour callouts, and I did not research carefully enough.

Disheartened, I soon realised that I had no choice other than to respray the wings. I could not find the motivation to make a new set of masks so I simply oversprayed the transposed colours freehand. In the end, thanks to the earlier thin layers of paint, you'd never have realised my gaffe. I won't tell anyone about it if you don't!

JUST WHEN YOU THOUGHT IT WAS SAFE...

Future floor polish works well for me sometimes, and other times it doesn't. This time, it worked perfectly, delivering a glassy reflective surface with only two coats.

On the home stretch now – just decals and weathering.

Without the kit decals, I had to source my own. I selected Authentic Decals Item No. 48-14 – "Il-2 Bark". This includes a large selection of two-seater Shturmoviks in a range of interesting markings. The instructions are small but excellent, clearly well researched and including all the information you could ask for.

The only problem was that the decals started to break up as soon as they were applied to the model. The felt a bit stiff as they slid off the sheet, and once they hit the curves of the fuselage they started to disintegrate. I spent some time trying to match the pieces to each other on the fuselage but

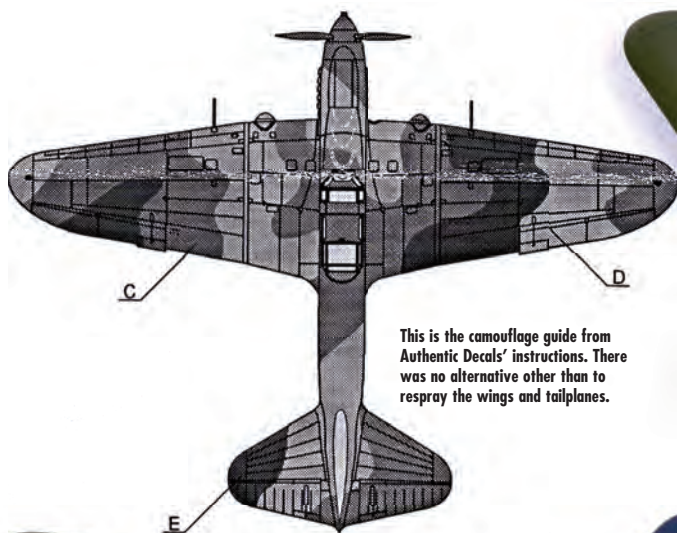
eventually decided that I would have to remove them from the model. A few of the decals had been on for perhaps ten minutes, but I have had 100% success at removing decals with masking tape or sticky tape. Until now.

Masking tape only lifted a few of the recently applied sections of the decals. When I tried using sticky tape, it not only removed the decals but also a few chunks of the surrounding paint.

BREATH DEEPLY. STAY CALM.

Realising by now that my paint job was bearing the full brunt of Mr Murphy's ire, I tried to take a philosophical approach and calmly sanded back the damaged paintwork before respraying the area.

I rustled around my decal drawers and found an old Aeromaster decal sheet that I had bought back in 2007. This included some markings for swept wing Il-2s, so I was back in business. I sprayed a white panel on the rudder, and held my breath as ➤



This is the camouflage guide from Authentic Decals' instructions. There was no alternative other than to respray the wings and tailplanes.



Above: After spending all that time making camouflage masks, this time around I simply sprayed the colours freehand. Here, the green has been sprayed over the original tan of the wings. The green has also been sprayed on the fuselage at this stage.



The tan has now been added to the mix. Now that is what it was supposed to look like!



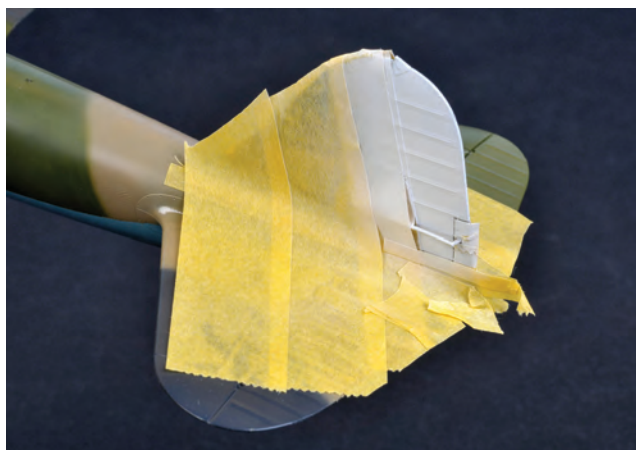
Future floor polish was sprayed over the model in preparation for decals.



The Authentic Models instructions turned out to be much better than the decals themselves. The markings shattered upon application. After trying to piece the decals together on the model I finally gave up. Unfortunately, the decals pulled up a few chunks of paint as they were removed from the plastic.



After the damaged paint was sanded back and resprayed, one of the unused Authentic decal stars was used as a guide to paint a white section on the rudder.



Left: Liberal amounts of Tamiya masking tape were applied before several layers of Tamiya XF-2 Flat White were sprayed on the rudder.

Right: In the end, decals were sourced from an old Aeromaster sheet, Item No. 48-199, that I had bought back in 1997.





The red of the stars was slightly translucent, but at least the angle of the white theatre markings was right!



he glossy finish was toned down with a couple of coats of Testor's Flat Clear Lacquer. This resulted in a dead flat finish – just what I wanted!



Soviet warplanes were frequently filthy. Structural features and control surface hinge lines were highlighted with a thinned mix of Tamiya XF-1 Flat Black and XF-64 Red Brown sprayed using the Iwata HP-CH airbrush.



The lower surfaces received the same treatment over the patchwork blue.



The heavy exhaust stain was built up gradually using the same mix of Tamiya XF-1 Flat Black and XF-64 Red Brown.



The undercarriage bay front caps and the landing gear were painted and weathered before installation.



The tyres were weathered with Tamiya pastels on the sidewalls. The spinner was streaked with fine lines of black paint, while the leading edges of the propeller blades were chipped using a silver Prismacolor pencil.



The bombs and rockets were painted at this time too. Most Soviet bombs were black but some were a paler colour.



Bombs, rockets and undercarriage have now been fitted. The splash of blue lends some extra interest.



The rear machine gun is a nice little sub-assembly in its own right, and was fun to paint. However, next time I will replace the solid gunsight with a clear piece of plastic.

Tamiya's cleverly designed open canopy option really does look like a sliding section over the centre section. Fine lines of thinned Tamiya X-18 Semi-Gloss Black paint have been applied around the various frames and panels with the tip of a fine brush.



The rear machine gun fits well even at this late stage of assembly. The wing root chipping was made with the tip of a silver Prismacolor pencil.



The ends of the exhaust stacks were brushed with Tamiya pastels, using the supplied make-up applicator.



The unmistakable profile of the Soviet game-changer – the Il-2 Shturmovik.



Tamiya has now woven its magic on the most produced aircraft in history, and one that had a major impact on the outcome of the Second World War.

Fusing disks are painted Vallejo acrylic 791 Gold.





So did we need a new 1:48 scale Il-2 Shturmovik? Having now built two of Tamiya's kit, I would have to say "definitely"!

"I lifted the masks from the wings and with dawning horror realised that the tan and the green were transposed. Disaster!"

◀ I dipped the old decals into warm water. Fate was smiling on me at last. The decals worked perfectly. Two coats of Testor's Flat Clear Lacquer delivered the dead flat finish that I was hoping for.

FINISHING TOUCHES

Weathering was carefully built up with very subtle applications of a thinned black-brown mixture along panel lines and other structural features.

This same black-brown mixture was sprayed in random spots and streaks; and as a heavy exhaust stains as shown in the Kagero artwork.

Control surface and panel lines and were then treated to a thin wash of Tamiya XF-18 Semi-Gloss Black paint.

All the remaining bits and pieces, including the canopy, antenna mast, bombs, rockets and replacement cannon barrels from brass tube, were now attached to the model. The delicate mass balance from the top of the rudder was super-glued back in place too.

Finally, the landing gear was attached to the wings. The two big locating pins in the front of each wing deliver a robust fit and perfect alignment for the main undercarriage legs. The domed cap is an excellent fit too, so much so that the join seam did not require any repair to the paint work after it was glued in place.

CONCLUSION

Tamiya has woven its magic on the most produced aircraft in history, and one that had a major impact on the outcome of the Second World War.

In my opinion, Tamiya's 1:48 Ilyushin Il-2 is the best Shturmovik kit available in any scale. Surface textures are restrained and convincing, engineering will allow for trouble-free construction with no compromise to detail, and plenty of useful options are provided.

As to the question of whether we needed another Shturmovik, after now building two of Tamiya's kits I would have to say "yes".

There is no such thing as consensus on the most deserving model subject. This point was proven in late April on HyperScale's Plane Talking Forum when visitors were asked what they thought the next 1:48 scale Tamiya release should be. Out of nearly 50 responses, there were nearly 50 different suggestions.

Under those circumstances, I am happy to leave the decision up to Tamiya.

I can certainly understand why Tamiya chose the Il-2. It is one of the most significant aircraft in history, was produced in greater numbers than any other, it features a good variety of camouflage and markings, it could form the basis for a whole family of kits and the only other 1:48 scale Il-2 models were produced in 1997.

Furthermore, a detailed side-by-side comparison of Tamiya's and Accurate Miniatures' kits shows that Tamiya is the clear winner in almost every respect. Tamiya's accurate spinner, propeller blades, scoops and upper cowl shape are all noticeable improvements over the Accurate Miniatures kit, making a big difference to the overall look of the nose.

Tamiya's wheel wells and tail wheel are much better too. Although Accurate Miniatures' surface textures and cockpit details are very nice, Tamiya pips them at the post in these areas as well.

Clever engineering touches such as Tamiya's approaches to the open canopy and the intake ducting also remind us that this is a state-of-the-art kit from a manufacturer at the top of their game.

What really sets these two kits apart, though, is the building experience. Tamiya's Il-2 is sheer joy to build. During construction, the kit had me literally shaking my head in admiration of its clever parts

MINI MODELSPEC

Tamiya 1:48 scale Ilyushin Il-2 Shturmovik.

Kit No. 61113

Accessories Used:

Good Stuff 1:48 scale LaGG-3 Resin Seat

Airscale Item No. AS48 RAF – WW2 RAF Instrument Dial Decals

Aeromaster Decals Item No. 48-199 - Shturmoviks Part 1

Authentic Decals Item No. 48-14 – Il-2 Bark

Tools and Modelling Products Used:

Tamiya Extra Thin Liquid Cement

Revell Contacta Cement

Selley's Super Glue

Zip Kicker (super glue accelerator)

Olfa Knife Model K B

Tamiya Tape – 6mm, 10mm and 18mm

Blu Tack

Post-It Notes

Irwin Clamps

Smoke-Coloured Invisible Mending Thread

Paints and Finishing Products Used:

Tamiya (acrylic): X-18 Semi-Gloss Black; X-25 Clear Green; X-27 Clear Red; XF-1 Flat Black; XF-2 Flat White; XF-23 Light Blue; XF-63 German Grey; XF-67 NATO Green.

Tamiya Weathering Master - Weathering Pastels Parts A.

Gunze-Sangyo acrylic paints: H70 RLM 02 Grey.

Mr Hobby Mr Color Leveling Thinner 400.

Vallejo Model Color (acrylic): 865 Oily Steel; 891 Intermediate Green; 919 Foundation White; 70953 Flat Yellow; 70957 Flat Red; 963 Medium Blue;

Vallejo Panzer Aces (acrylic): 337 Highlight Ger. (Black)

Testor's Model Master Flat Clear Lacquer Finish

Gunze Mr Metal Color (lacquer): 211 Chrome Silver; 214 Dark Iron; 217 Gold; 217 Brass

Solvaset decal setting solution

Future Floor Polish

AK Interactive Dark Brown Wash

Winsor & Newton Oil Paints: Lamp Black; Raw Umber

⊕ Superb fit; excellent surface detail; high level of detail; brilliant engineering; useful options.

⊖ Nothing worth mentioning.

Rating: 9.5 out of 10

Thanks to Tamiya for the sample www.tamiya.com

Tamiya kits are distributed in the UK by The Hobby Company Limited www.hobbyco.net

breakdown and precise engineering.

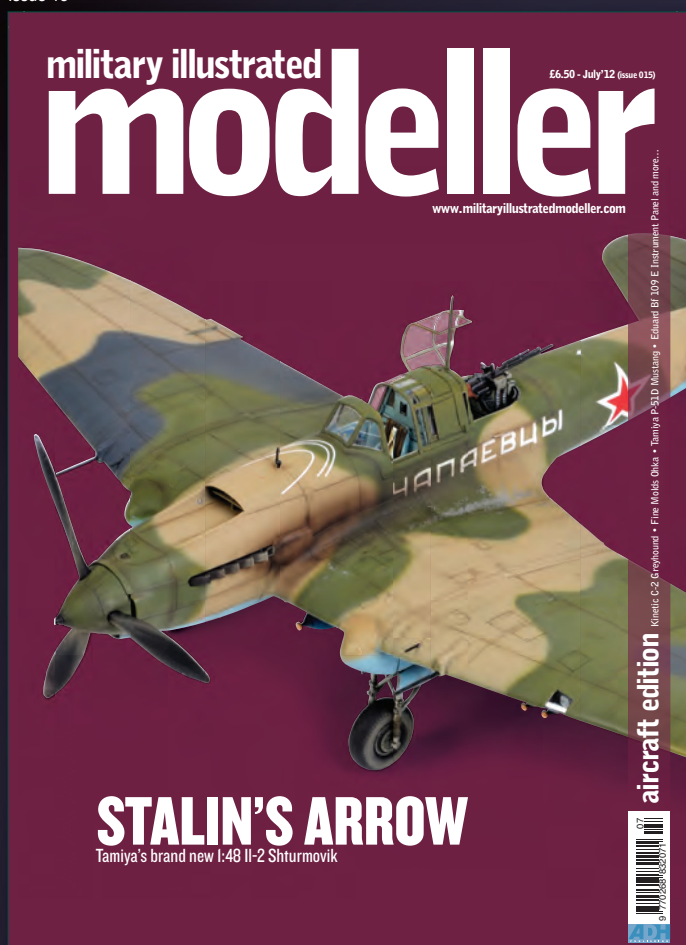
Back in the late 1990s, Accurate Miniatures' Il-2 also had me shaking my head, but for entirely different reasons. It too can be built, but it is temperamental and can be frustrating. Such fussiness of construction is easy to forgive when there is no alternative, but Tamiya's new Il-2 has changed the game.

If you want to build a two-seater Shturmovik, do yourself a favour and grab Tamiya's Il-2. It really is a beautiful kit, both in the box and on the workbench. •

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NORMANDY HUNTER

Dragon's Tiger I of the s.S-Pz.Abt 101,
SS Untersturmführer Georg Hantusch



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1:35 AB41
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Military Illustrated Modeller Issue 19 - Aircraft Edition on sale 18 October 2012



MY DUCHESS

Dave Johnson builds the
big beautiful 1:32 scale
HK Models B-25J Mitchell.



HEINKEL HE 111 - PART TWO

The Editor paints and weathers Monogram's
1:48 scale Heinkel He 111, and completes
its backdate to an H-1 variant.

OKINAWA AVENGER

Accurate Miniatures' 1:48 scale
TBM-3 Avenger by Gary Edmundson



THE SINKING OF LST-158

Reference by Morten Jessen and Andrew
Arthy, with wartime photos and colour profiles.



Tailpiece

STOP PRESS

EDUARD'S BRAND NEW 1/72 MESSERSCHMITT BF 110 E

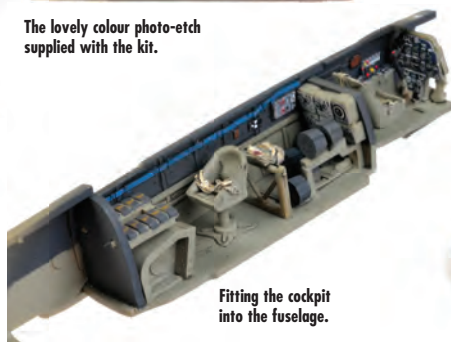
Eduard's all-new 1:72 scale Messerschmitt Bf 110 E lands on the Editor's doorstep, and he starts building the kit immediately!



Basic construction was complete in little more than a day.



The lovely colour photo-etch supplied with the kit.



Fitting the cockpit into the fuselage.



Small but perfectly formed – the Bf 110 E cockpit well underway.

Eduard released the first of their 1/48 scale Messerschmitt Bf 110 family back in September 2007. The kits are very well detailed and feature class-leading surface detail; with plenty of useful options and attractive decals. They also have a reputation of being a little tricky to build.

Eduard has clearly taken a good hard look at the engineering and parts breakdown of those 1/48 scale kits and made some changes when they were designing their 1/72 scale Messerschmitt Bf 110 E.

I could not resist starting my Bf 110 E straight away. Within a few hours of the kit arriving I had put together the various cockpit sub-assemblies, and by the same time the next day I had completed basic construction.

The fit of all the major and minor parts is brilliant, and building the model was a very enjoyable experience. You can forget any preconceptions you might have about the 1/48 scale kits - this one is viceless.

But I am getting ahead of myself. Let's take a look at what is in the box.

Eduard's 1/72 scale Messerschmitt Bf 110 E comprises more than 160 parts in olive coloured plastic and 13 in clear. Keep in mind though that the total parts count includes 45 parts not for use with this version, and a number of additional optional parts for the Bf 110 E too. A colour photo-etched fret provides instrument panels, harness straps and smaller details, while the usual Eduard mask is also supplied for the complex glasshouse canopy framing.

Crisply recessed panel lines are partnered with incredibly subtle rows of rivets. I like the treatment of the fabric control surfaces too, with delicately raised rib tape and no sagging in between.

The fuselage is broken down into the main halves with a separate nose (upper and lower) plus an insert for the deck immediately aft of the cockpit. As standard fuselage is supplied along with a separate longer fuselage with the boat tail moulded in place.

The cockpit is beautifully fitted out with a combination of fine plastic and colour photo etched parts.

Seven spare ammunition drums are provided for the under floor MG FF cannon, although the instructions only indicate the location of four.

Wheel well detail is moulded to the bottom of the wing and the inside of the nacelle parts. If you want to add more detail, Eduard has released a photo-etched fret that supplies the individual ribs inside the wheels wells. The main undercarriage legs are quite stout, with two locating pins to ensure correct positioning. Optional plastic and photo-etched oelo scissors are offered.

The main wheels are the correct style for the Bf 110 E, but a second set is also included for the Bf 110 C and D. Similarly, both large and small tail wheels are offered, and top machine gun cowl both with (for the E) and without (for the C and D) the rectangular intake. In fact, all the parts required for a Bf 110 C, D or E, including options of 300 litre drop tanks, 900 litre tanks, the small fuselage oil tank and even the huge Dackelbauch fuselage tank, are supplied on the sprues.

The shape of the spinners looks good, and the prominent pitch collars are moulded near the base of each propeller blade. These should be clearly visible when the propeller assembly is complete.

The exhausts are moulded as six-stack units, making assembly quite simple.

Clear parts are thin and well moulded. The side and top canopy parts are individual pieces to permit posing in the open position. The rear clamshell is moulded shut. Presumably, the challenges of moulding an open clamshell were too great in this scale due to the thickness of the plastic.

The decals are well printed and in register. Stencil markings are included on the single sheet.

There has hardly been a shortage of 1/72 scale Messerschmitt Bf 110 kits over the years, but none of the mainstream offerings were really worthwhile until Airfix released their new-tool Bf 110 E two years ago.

The Airfix kit is inexpensive, generally accurate and very easy to build, but it does suffer from deep and heavy panel lines, simple detail and a thick, one-piece canopy.

In my opinion, Eduard has now snatched the mantle of "Best Bf 110 in 1/72 Scale".

Thanks to its compact size and ease of assembly, you'll be able to build an entire Staffel of Eduard's new 1/72 scale Bf 110 Es!

Highly Recommended.

Thanks to Eduard for the sample www.eduard.cz Eduard kits are available from Creative Models Limited www.creativemodels.co.uk

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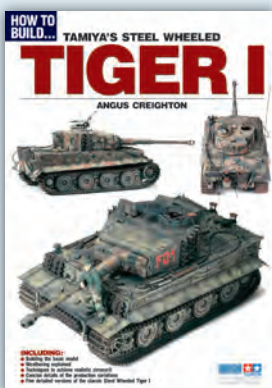


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Aircraft belonging to the 6th Guards Independent Attack Aviation Regiment

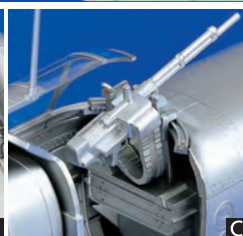
Aerial Armor

1/48 Scale Ilyushin Il-2 Shturmovik Item 61113

The Il-2 Shturmovik was a ground-attack aircraft which contributed greatly to the Russian war effort in WWII. Stalin declared the aircraft to be as important to his army as air and bread and spurred its production, which eventually totaled over 36,000 aircraft. A characteristic feature of the Il-2's design was its armored fuselage, which was integrated into the airframe to protect vital areas such as the engine, fuel tank, and cockpit. Armed with two 23mm cannons and up to 600kg of bombs and rockets, the Il-2 was devastating against German tank units. In the biography of the legendary German ace Erich Hartmann, he noted that the heavily armored Il-2 was an even more difficult opponent than Russian fighters. The Il-2 was widely used in the latter half of the war and this famous "flying tank" has now been added to Tamiya's 1/48 Scale Aircraft Series.

ILYUSHIN IL-2 SHTURMOVIK

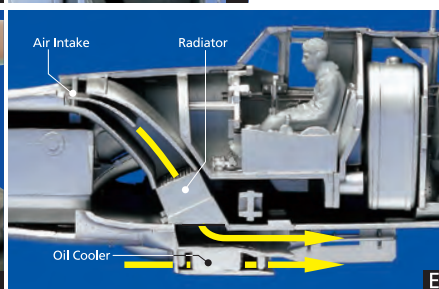
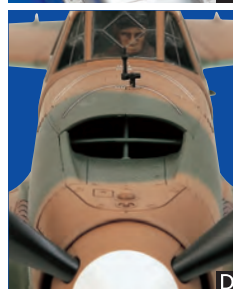
《About the Model》★Thorough first-hand research of surviving Il-2s in Russia and the Czech Republic has led to this highly accurate model kit. ★Robust form of the aircraft, including the wooden rear fuselage, is faithfully rendered. ★Kit depicts a late-type two-seat aircraft with outer wing sections swept back at 15 degrees. ★Detailed cockpit interior. ★Options include two types of 23mm cannon fairings, 100kg and 250kg bombs, and three types of launch rails for RS-132 rockets. ★Comes with pilot and gunner figures as well as canopy masks.



A Model may be depicted with bombs and rockets. Underside also features a detailed oil cooler.

B Accurately reproduced main landing gear legs and wheel well details.

C The 12.7mm machine gun comes complete with its traverse rail mount.



D Accurately proportioned nose intake area. **E** Intake duct as well as radiator and oil cooler parts provide insight into the Il-2's cooling system.

**1/48
SCALE**

Length: 243mm
Wingspan: 305mm

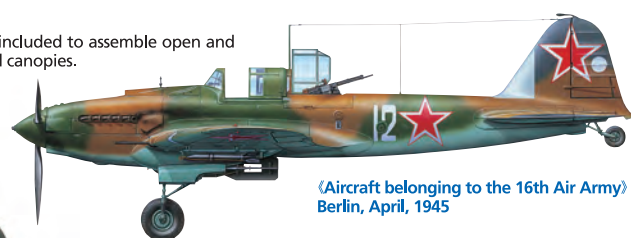
3 marking options included.



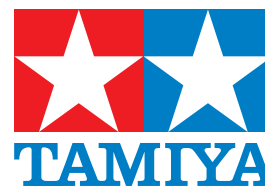
Features accurate wing surface details.

《Aircraft belonging to the 566th Attack Aviation Regiment》Leningrad, 1944
Images show assembled and painted model kit.

Parts included to assemble open and closed canopies.



《Aircraft belonging to the 16th Air Army》
Berlin, April, 1945



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